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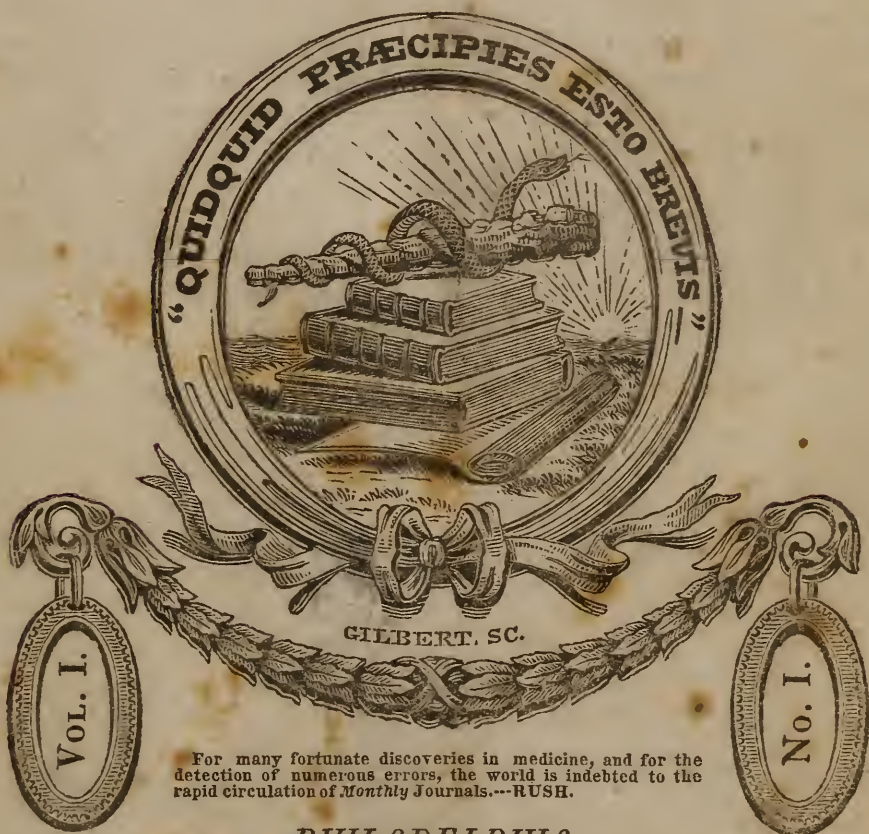


THE
Philadelphia
MONTHLY JOURNAL
OF
MEDICINE AND SURGERY.

EDITED BY

N. R. SMITH, M. D.

PROFESSOR OF ANATOMY IN JEFFERSON COLLEGE, AND AUTHOR OF A
PHYSIOLOGICAL ESSAY ON DIGESTION.

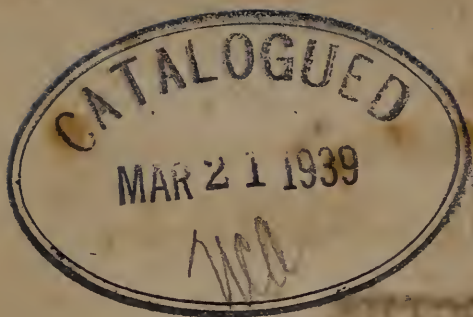


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EXHIBIT

The following is a list of the exhibits which have been received by the Bureau of Investigation, Department of Justice, from the United States District Court for the District of Columbia, in the case of the United States vs. [illegible], et al., No. [illegible].

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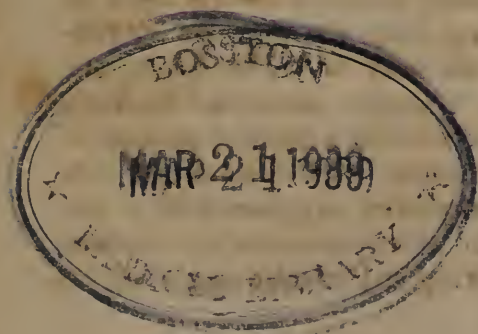
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PROSPECTUS.

WE embark in the enterprise announced by the publication of the following pages, without the least apprehension of being thought actuated, either by the puerile vanity which seeks mere editorial notoriety, or by motives of pecuniary interest. Nevertheless we profess to be prompted by nothing more refined than an enlightened self-regard, which would benefit its possessor, solely by the reflection of the service it may render to others in the judicious diffusion of medical intelligence. The work can benefit its projectors but in proportion as it is appreciated by the public, since reputation is the only remuneration that we can receive, whether our list of patrons be great or small. This motive is that which, of all others, may be supposed to have the best influence on the character of a work of this kind, and assures our professional brethren that *efforts*, at least, will not be wanting to render it such as shall win their approbation.

The editorial design of the work, as will be learned from inspecting the present number, embraces three departments. 1st, *Original Monographs* on such topics as may be deemed of interest to the American reader. 2d, *Analytical Reviews* of such valuable foreign books as are otherwise inaccessible to our subscribers; and *critical notices* of domestic medical literature. 3d, *Abstract of Foreign Medicine*, into which we shall endeavour to condense whatever may be found new and particularly interesting in the best foreign journals. We shall thus sketch the progress of cotemporary medicine in every part of the world.

We have chosen the monthly period of publication, ours being, with one exception, the only instance of this form in our country. Without detracting from the peculiar advantages of the quarterly journals, we may be permitted to say that a more frequent momento is better calculated to keep alive a spirit of inquiry, and to command a faithful perusal of its pages.—Its price, \$3,00 per annum, will recommend it to those, even, who may already have been supplied with a medical magazine and will contribute to its extensive circulation. Although we have delayed making any considerable efforts

to obtain subscribers, till after the publication of this number, we have already received 230 names.

Numerous foreign journals have been ordered, and will, in a few days, be received. We shall also seek exchanges with all, that the communications with which our friends shall furnish us may be extensively circulated.

The 12 numbers of the year will constitute two volumes, of 300 pages each. The following numbers will, in regard to paper and typographical execution, be uniform with the present number.

THE
Philadelphia
MONTHLY JOURNAL
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MEDICINE AND SURGERY.

VOL. I.

JUNE, 1827.

No. I.

ESSAYS.

ART. 1.—*Remarks on the Injuries resulting from Confinement of the Chest by Dress.* By N. R. SMITH, M. D.

IN January last, the body of a young female, an unfortunate victim of vice, was brought into the anatomical hall of Jefferson College, for dissection. On exposing the chest, a remarkable deformity presented itself, occasioned by distortion of the breast bone. About two inches from the top of the sternum, where the first piece of that bone joins the second, was an indentation nearly an inch in depth, immediately above which the bone abruptly protruded, so as to form an obvious tumor between the breasts. The ribs, also, attached to the protuberant piece of the sternum, were of course more arched than those below, giving to the whole upper part of the chest a more free expansion than belonged to the lower. The pit in the sternum was precisely where the extremity of the busk, or corset board, is usually worn. This, together with the confined aspect of the lower part of the chest, instantly suggested, to every one who saw it, the cause, which unquestionably was the wearing of the tightly laced corset before the form of the individual had been fully developed.

On examining the contents of the thorax, the capacity of which had thus been encroached upon, it was found that the subject had been the victim of pulmonary consumption, one of the most important predisposing causes of which, we know, to be a confined chest. It cannot be doubted, therefore, that the fatal disease, in this instance, had been aggravated, and might have been provoked, by the habit of dress.

The above instance of artificial malconformation, will by no means appear incredible to those who know how susceptible is the human form, in early life, of being moulded to almost any configuration, and that without the infliction of much pain upon the individual. Even the shape of the head, the most rigid part of our bodies, is, in some parts of the world, brought under the plastic dominion of fashion. We have the fashion of flat heads on the rocky mountains—round heads among the turbanned Turks, and long heads among the Macrocephali. Indeed, there is scarcely any part of the form that fastidious man has not attempted to amend, as if believing that nature's journeymen had made us, and not made us well. I know not which would appear the most ridiculous in the eyes of the other, the wasp-waisted lady of our own country, or the Chinese belle, with a foot no bigger than a Mandarin's thumb; nor do I know which would most offend the unsophisticated eye of nature; but this I know, that the deformity of the latter is unimportant in regard to health, while that of the former is acquired at the expense of vital organs, which may not be encroached upon with impunity.

If, as I believe, and shall endeavour to show, the confinement of the chest, practised by females in fashionable life, is one of the most frequent of the remote causes of disease, certainly it is a subject worthy of our particular attention. To prevent is obviously better than to remedy diseases, though perhaps less profitable to our fraternity.

It is a fact, although perhaps not generally observed, that, in females, the free motions of the chest are much more important, in relation to the function of respiration, than they are in males. It is obvious that in the former the chest is comparatively nar-

row, and the expansion of the diaphragm less than in males; hence it follows that this muscle must necessarily exert less influence in expanding the chest for the inhalation of air. The mechanism of the ribs, however, is admirably calculated to supply the deficiency. Their obliquity, with respect to the spine, is much greater than in the male; the cartilages are more flexible, and indeed the whole structure of the thorax is more elastic and mobile.

The final cause of this peculiarity of mechanism is obvious.—During the period of gestation, and especially in the latter months, the increased volume of the abdominal contents impedes the descent of the diaphragm, and renders it more necessary than in the male that the lateral and antero-posterior diameters should be increased by the compound motion of the ribs. From the above observations it follows that any article of dress which constricts in any considerable degree the chest, must be infinitely more productive of mischief to the female than to the male, and for two reasons: First, it must restrain motions which are far more necessary to the function of respiration; and, secondly, the female chest has far less rigidity to resist the injurious pressure.

Whenever the female chest is confined, it necessarily results that the diaphragm is called into increased and preternatural exercise. The diaphragm is antagonized by the muscles forming the anterior walls of the abdomen, and hence the motions of inspiration and expiration alternate between these organs. The abdominal viscera become injuriously compressed, and although the natural and easy motions of respiration are salutary to these organs, yet the unnatural efforts of the diaphragm must injuriously encroach upon the region of the stomach, liver and spleen, with all which it is in contact below. This effect will be the greater, because these viscera are embraced by the cartilages of the ribs, and must suffer also from lateral pressure. All these organs must be urged lower into the abdomen, and not only this, but the more moveable viscera are pressed into the pelvis,

and interfere with the contents of that cavity, producing mischiefs which we shall presently name.

Females are exceedingly incredulous in regard to the injuries resulting from incarceration of the chest, because the corset, after having been worn for a considerable time, not only ceases to give any sensible inconvenience, but seems necessary to their comfort as a support to the body. This, however, only renders the mischief insidious. We very well know that by *habit* the body may be so inured to almost any restraint as to become unconscious of its presence; but if it be persevered in, the injurious effects, sooner or later, result. Those Chinese females whose feet are ruined by early and tight bandaging, do not experience much pain from the confinement; nor is that degree of compression, which even moulds the shape of the head, borne with impatience. All admit, however, that the corset, when first worn, causes much uneasiness, and young girls are often very refractory in regard to this part of their physical education.

The injuries which result to the constitution from long continued compression of the thorax, are manifold. The first and most obvious is impeded respiration. This must necessarily follow from what we have observed above, of the mechanism of the female chest. Not only are the motions of the thorax restrained, but the capacity of the lungs for air is encroached upon; the blood circulating through these organs is retarded, and its change, effected by the atmosphere, ceases to be complete. The lungs become engorged, and are thus provoked to whatever disease the idiosyncrasy of the patient, or peculiarity of climate, may predispose. With us, the disease which will most frequently be developed, and perhaps originally caused, is tuberculous consumption. Inflammatory affections of the lungs and appendages, as bronchitis, peripneumony and pleurisy, will be encouraged. Diseases of the heart and circulatory organs are also in the train of its effects. It has been ascertained, by the experiments of Barry and others, that the alternate expansion and collapse of the chest, are almost as necessary to a free cir-

ulation of blood, as to healthy respiration. Whatever restrains them will cause an accumulation of blood in the ascending cava and the portal system of the abdomen. The mechanical pressure also operates immediately upon the heart, restraining its natural diastole, or expansion for the reception of blood. The frequent occurrence of fainting, in females fashionably attired, especially when breathing the impure air of crowded rooms, and when the circulation is hurried by exercise, are proofs of the justness of our observations. Whenever this occurs in the presence of an honest matron, acquainted with the mysteries of the modern toilet, she immediately applies herself with scissors, tooth and nail, to the lacings of the corset, and with all the eagerness with which one would cut the rope of a suicide.

Palpitation of the heart also results from any cause which, restraining the natural action of the organ, compels it to struggle in the performance of its office. All that numerous and varied train of affections which spring from impeded circulation, are its secondary results.

I have already hinted at the injuries that may be inflicted upon some of those organs concerned in the function of digestion. The stomach is not only displaced, but is irritated, by the mechanical pressure. Its motions, so essential to the integrity of its functions, are confined, and the circulation of its blood is obstructed. Nearly the same is true in regard to the liver and spleen. The rest of the abdominal viscera are also confined, or displaced, in a degree that can not be regarded as innoxious.

But some of the most deplorable effects resulting from this absurd practice, and which are often productive of infinite misery and protracted suffering to females, are prolapsus uteri and leucorrhea. That they must result from the descent of the abdominal viscera into the pelvis, and obstructed circulation, is sufficiently obvious. The record of fashion's infirmary will also substantiate our assertion. I have been informed by an eminent physician, who has practised extensively both in town and country, that these distressing affections are four times more frequent in the former; and to no cause, of the many which un-

doubtedly concur, does he ascribe more influence than to the follies of dress.

The degree of injury inflicted by the corset upon the female form, undoubtedly, in some degree, depends upon the period of life at which it is assumed. Before the figure is fully developed, its contour may be influenced by the slightest restraint. This was undoubtedly the case in the instance with which I introduced this subject.

The argument, however, which of all others may, perhaps, with females, be most effectually employed against the use of this procrustean girdle, is the fact that, besides its less direct influence, in substituting the pale ensign of disease for the "crimson of their lips and of their cheeks," it often spoils the symmetry of the form. It is a capricious fashion which admires a preternaturally small waist in the female figure; the proportion that nature has assigned it is that which alone pleases the taste capable of appreciating the truly beautiful. But the confinement of the chest also produces a remarkable protuberance of the abdomen, which certainly none can admire, except in those ladies who give evidence that they "love their lords." We have already observed that when the respiratory motions of the chest are restrained, they are communicated to the muscles of the abdomen. This is especially obvious when breathing is hurried by exercise or animated speaking. I have seen a fair actress upon the stage so begirt with whalebone and steel, that in impassioned utterance, when the tide of the bosom should speak the emotion of the heart, there was substituted for it an unseemly anhelitus of the abdomen, the chest being fixed like a bust of marble. Surely females would not willingly, for that which is so graceless, sacrifice a charm that has set so many poets raving. 'Tis plain that Haidee could never have worn a corset, or the poet could not with truth have thus sung her graces:

"She wore two jelicks—one was of pale yellow;
Of azure, pink, and white was her chemise,
'Neath which her breast heaved like a little billow."

I could adduce cases which have fallen under my own observation, illustrative of the evils of this too frequent cause of dis-

ease and deformity, but perhaps we have said enough to convince our professional brethren of the importance of overlooking nothing in which may lurk the embryon cause of disease and death, whether it be a tight neck-cloth, a laced corset, a dish of ill prepared food, the subtle principle of contagion, or the desolating breath of the simoom. Let nothing which is hostile to health and life be deemed unworthy the attention of their protectors. In conclusion, however, I would state, that my friend Dr. Eberle has recently mentioned to me a case in which the breasts of a female were ruined for the nursing of the infant, from the nipple having been so buried in the gland; by the pressure of the corset, as that it could not be drawn by the child. Another case he has also related, in which the use of this article of dress, during the latter months of gestation, proved fatal to both mother and child. The latter, when born, manifested, in the very form of its body, that it had been forcibly compressed.

ART. II.—*Observations on the Pathology and Treatment of Necrosis.* By NATHAN SMITH, M.D., Professor of Surgery in Yale College.

THE etymological definition of Necrosis is, the *death* of some part of the bony structure; as technically employed, in medicine and surgery, however, it designates a particular form of disease, characterized by peculiar symptoms, and often, generally indeed, terminating in the death of a portion of the bone in which it is located. We may perhaps question the propriety of the above appellation, if it be made to appear, as I shall attempt, that the death of the part affected is not the *necessary* sequel of the disease, although the most frequent. It is the same inconsistency of language that obtains in the application of the term hydrocephalus to those inflammatory affections of the meninges of the brain, which sometimes terminate in dropsy of that organ.

This disease was formerly known in New England under the name of *fever-sore*, given to it, undoubtedly, because it is generally accompanied, from the very commencement, with a high de-

gree of constitutional irritation and symptomatic fever. The constitutional disturbance, in most cases, being nearly synchronous with the local affection, induced medical men, while the humoral pathology prevailed, to regard the general disease as a fever, and the local affection as nature's remedy, by which she eliminated the peccant humours. They probably would have explained it in the following manner:—The fever, to expel the morbid matter from the system, throws it on the part affected, which causes the inflammation and subsequent collection of matter.

The following pathological history of this disease has been the result of extensive observation, the disease very frequently occurring within the sphere of my practice.

Necrosis commences with an acute inflammation, either in the bone itself or its investing membrane, accompanied with an acute pain, not always at first in the part affected, but often felt most severely in the joint nearest the disease. In a day or two, however, it generally leaves the joint, and permanently locates itself in the part inflamed.

Almost from the first commencement of the pain, there occurs severe symptomatic fever of the inflammatory character. The local affection generally terminates in suppuration, frequently as soon as the fourth or fifth day, and this event, if it occur, is rarely protracted beyond the tenth or twelfth. The matter is at first deposited between the external periosteum and the bone. When the shafts of the long bones are the seats of disease, about the same time that matter is deposited beneath the external periosteum, there is formed a corresponding collection between the internal surface of the bone and the membrane surrounding the medullary substance, so that there then exist two collections of matter bathing the opposite sides of the walls of the bone. This fact, which I deem of great importance, as being essential to the correct treatment of the disease, I have ascertained in repeated instances, by the operation which I have performed for its relief, namely, the trepanning of the bone.

Very soon after the attack, the whole limb swells, but there

is no marked tumefaction immediately in the part affected, till after the matter makes its escape from the periosteum, and is diffused beneath the adjacent soft parts. Whenever this occurs, the extreme pain and symptomatic fever, which till then have continued unabated, in some degree subside, but do not entirely leave the patient.

When this kind of inflammation attacks the spongy bones, the matter is at first collected on both sides of the external lamella, or plate of compact bone, which covers the cells, so that it is similar to the same disease in the long bones, except that in the latter the matter within the bone is lodged between the medullary substance and the walls of the bone, the medullary substance not being affected nor penetrated by the matter.

The death of a portion of bone, in this disease, does not appear to arise from any extraordinary malignity in the inflammation, nor from its exerting any peculiar lethiferous influence upon the part affected, as some specific diseases destroy the parts which they attack. Abundant cause for the death of the part is found in the insulation of the bone, effected by the accumulation of matter on both sides of its parietes, and the consequent destruction of those vessels which, from the two periosteae, furnish it with blood and nutrition, so that the denuded portion receives no vessels but those extremely attenuated ones, which permeate it from the surrounding margin of healthy bone. These last being insufficient for its nutrition, it consequently perishes. Nature then sets up a process of ulceration for the separation of the dead portion, and the evacuation of the matter contained within it, this occupying a greater or less time, as influenced by circumstances. The dead and insulated bone, from its indestructible nature, remains as a foreign body in the living parts, until, by the recuperative efforts of nature, it is dislodged entire and rejected from the system; or being constantly bathed in the secretions which protect the surrounding parts from its contact, is gradually dissolved and wasted away; or, finally, is removed by art.

When the disease has arrived at that period at which the matter

accumulated beneath the periosteum has made its way to the surface, and that contained within the cavity of the bone has issued through a fissure in the same, relieving the parts from the irritation of distension and pressure, the symptomatic fever in a great degree ceases. If, however, the collection has been large, and the portion of necrosed bone be considerable, hectic fever is liable to supervene, indicating the continuance, though a change of irritation.

Whenever there occurs a favourable respite, the conservative powers of nature, always active so long as vitality remains, rally for the purpose of remedying the injury inflicted upon the bone. The process instituted for this purpose varies according to circumstances. When the portion of dead bone is small and situated on the side of one of the long bones, granulations will shoot from the surface of the sound or living bone, and as occurs in mortification of the soft parts, will push the dead bone off from the living, and finally urge it through the opening previously formed, and disengage it from the body. This is more likely to happen when the soft parts have been divided, early in the disease, over the whole length of the dead portion of the bone.

But in those cases in which a large portion of the circumference of the bone is affected, and especially when the life of the whole circumference, to some extent, has been destroyed, there is formed a bony structure, which attaches itself to the healthy bone, near, or at the part where it has separated from the sequestra or dead portion, around which it forms a bony case complete, excepting the apertures through which matter flows, and which must thus remain open. The new cylinder of bone does not closely embrace the dead; hence, and also because it overlaps the ends of the living bone, it is to the feel considerably larger than the bone of the sound limb.

Necrosis is almost exclusively confined to young subjects. I have very rarely seen it in persons under five, or over twenty-two. I have, indeed, witnessed a disease in old men which might perhaps be denominated necrosis, as terminating in caries, but characterised by very different symptoms. Three cases have

fallen under my observation, in each of which the upper part of the femur was the part affected. Two of the patients were over seventy, the other much younger, but with a broken constitution, having some years before lost the prepuce and glans penis by a gangrenous inflammation. The disease attacked with considerable pain and constitutional affection; there was, however, for some days, no swelling nor appearance of inflammation externally; but at length the limb became tumid, and a fluctuation was perceived. On opening the part, a considerable quantity of dark and very offensive sanies was discharged; the bone appeared denuded of its periosteum, and of a dark colour. These cases all proved fatal in a short time. In one, the affected portion of bone was separated before the patient died.

In regard to the locality of necrosis, although, perhaps, every portion of the bony fabric is liable to its attacks, yet it occurs in some bones much more frequent than in others.

I have never seen it in the scapula, sternum, nor spine. It very rarely occurs in the bones of the carpus, although I have occasionally seen it attack the fingers. The bones of the cranium are not exempt from it, and it often attacks the lower jaw, the clavicle, and the ribs, but especially the long bones of the arm, fore-arm, thigh and leg. I have seen it in the femur, patella, both bones of the leg, os calcis, metatarsal bones and the bones of the great toe.

My own experience would determine the tibia to be the most frequent seat of the disease; next to this the femur, and then the humerus.

I am induced to believe, that this kind of inflammation never attacks the articulations in the first instance, but, in the long bones, is confined to their shafts, and when it attacks the spongy bones, as the os calcis, it does not commence in the articular surfaces, nor within the capsular ligaments. The joints are, indeed, sometimes affected by this disease, but, when this does occur, it is the result of disease extended from the shaft of the bone. The margin of the sequestra is often accurately defined by the line of junction between the shaft and epiphysis of the

bone, the articular portion being thus left untouched. It sometimes happens, however, that when the attack is in one of the larger bones of the limbs, and near to the apparatus of the joint, the inflammation extends to the latter, matter is formed within the capsular ligament, and the limb is lost. Such cases, however, are exceedingly rare; in the whole course of my practice I have had occasion to amputate but two limbs, for the purpose of rescuing the patient from this formidable variety of the disease.

Necrosis is not always confined, in an individual case, to one bone, but may occur simultaneously in remote parts, or, which is more common, successively. The secondary attack is not so often on a bone of the same limb as on one of another. When the first attack has occurred in the femur, the second has located itself in the humerus, and vice versa. In a few instances, however, I have observed it in a bone of the same member, attacking, for instance, the femur and the tibia successively. In a few instances it has attacked secondarily the same bone in the opposite limb. I once saw a patient who had had, in the course of a few years, an attack of this disease in almost every bone in his body.

In regard to the general prognosis of the disease, I have observed that a very great majority of patients survive its attack, though often with long confinement, protracted suffering, and great emaciation. In a few cases, however, the disease proves fatal, and when it does so, it frequently happens at an early period of its progress, and life is destroyed by the extreme degree of constitutional irritation and symptomatic fever. These fatal symptoms are especially apt to occur when the disease occupies a considerable portion of a large bone. This severity of the constitutional symptoms probably depends on the peculiar structure and sensibility of the part particularly affected. The periosteum, beneath which the matter first accumulates, being a fibrous membrane, possesses, indeed, but very little sensibility in health, but, when inflamed, and especially when put upon the stretch by distension, it is known to be the seat of the keenest sensations, and to be a source of extreme general irritation, giving a greater

shock to the nervous system, than almost any other diseased structure.

In some cases, in which the disease has destroyed the vitality of a large portion of one of the long bones, and in which there must necessarily have occurred extensive suppuration and copious discharge of pus, the patient, as in similar results of other diseases, has died of exhaustion.

The patient, also, after having survived one or two severe attacks, sometimes is cut off by the accession of another, and when this is the case, death generally occurs in the stage of excitement and constitutional disturbance.

Diagnostic Symptoms of Necrosis.—It is impossible, even by the most vivid description, to express the character of this disease with the precision with which the observation of a few cases will convey it; and yet, before one can observe with accuracy or profit, he must know something of its history.

As the disease is an acute inflammation, characterised by the peculiar vital properties of the parts affected, many of the symptoms must be analogous to those of other inflammatory affections. I have often known it to be mistaken, and for a considerable time treated, for acute rheumatism, even although suppuration may have been observed.

In my pathological observations on the disease in question, I stated that it commenced with acute pain in, or *near*, the part affected. It frequently happens that, when the disease fixes on one of the long bones and near its extremity, the pain is complained of in the adjacent joint; thus, when the disease attacks the lower portion of the tibia, the pain is for a time chiefly felt in the ankle. If in the upper part of the tibia, or lower part of the femur, it is referred to the knee joint. It is not long, however, confined to the joint, but fixes itself in the inflamed part. It is this circumstance of pain, referred to the joint, that often causes the disease to be denominated rheumatism.

The pain experienced in necrosis is extremely acute, unremitting, and not much influenced by the motions nor position of the limb. The pain is often a day or two antecedent to the swelling, and when the latter first occurs, it is generally diffused over

a considerable part of the limb, especially below the part affected. The surface is rather firm to the touch, but the skin is not discoloured till after matter is formed and advanced towards the surface. The symptomatic fever is coeval with the pain, they both usually occurring on the same day. The pulse is both frequent and quick, the stroke sudden, and the artery small and hard to the touch. At first the patient has occasional chills, but when he complains of a sensation of cold, the skin, to another person, feels hot. The pain is so tormenting, that he gets but little or no sleep, during the night is often delirious, though during the day rational. The tongue is furred with a soft, white coat. The face is not flushed, but rather pale, with the exception of occasional red spots on the cheeks. The hands are often hotter than other parts of the body, and in one violent case I observed that the points of all the fingers were red, swollen, hot, and very painful. The appetite for food is lost; thirst considerable, but the stomach and bowels are not so much affected as they generally are in other febrile affections.

It has already been stated, that the disease is acute, and that suppuration takes place promptly, but there is often a difference of several days in different cases, though this difference is often more apparent than real. But few surgeons have the tact to discover matter while it is confined beneath the periosteum, and more especially where the part is covered by voluminous muscles, as is the case in the thigh. In this instance it is probable that an experienced surgeon might not be able to detect the presence of pus, till after it had made its escape through the periosteum, and accumulated to some extent in the soft parts.

I have observed that the locality of the pain, in the early stage of the disease, caused necrosis to be sometimes confounded with rheumatism. Most, even of its early symptoms, however, are very different from those of that disease. The symptomatic fever and constitutional irritation come on sooner after the local attack, and are much more severe. The pulse, as described above, is also very different from that of acute rheumatism, it being smaller, harder, and less easily compressed. Suppuration, which very rarely occurs in rheumatism, finally removes all ambiguity.

Necrosis, also, usually attacks at that period of life when rheumatism is not liable to occur.

The fever attending necrosis is distinguishable from typhus by the local affection, by the pulse, which is harder and less easily compressed, and by its not being attended with so much stupor. The stomach and bowels are also much less affected; besides, there is the different expression of countenance, which is very apparent and characteristic to the eye, but is not easily described.

Causes of Necrosis.—The inflammation which produces necrosis of the bones, has sometimes been excited by blows and injuries inflicted upon the limbs. The sudden suppression of perspiration, by application of cold to the surface, has the same relation to this disease as to many others. In several cases I have known it to occur immediately after the patient had imprudently bathed in cool water, when the surface of the body was warm. It often, however, seizes the patient without the intervention of any obvious exciting cause, by which the lurking diathesis is sometimes developed, or concentrated upon a particular part.

It is customary with physicians and surgeons to ascribe necrosis to a *scrofulous* diathesis as its predisposing cause. This term is employed with much latitude, and is often used, like the sign of an unknown quantity in algebra, to express something with the nature of which we are unacquainted. When used in this way, there is perhaps no impropriety in naming scrofula as the diathesis which predisposes to necrosis. Necrosis, however, is by no means to be identified in its nature with the affection of the lymphatic glands, to which the terms scrofula is, with more precision, applied, since necrosis may repeatedly occur in the same individual without being accompanied by lymphatic tumors. Whatever the remote cause may be, it is undoubtedly one which produces an enfeebled state of the capillary system, in consequence of which the nutrition of the bones, usually requiring the exercise of nature's powers in their integrity, is performed in an imperfect manner, and they become liable to the encroachments of disease.

(To be Continued.)

ADVERSARIA.

ART. I.—*Case of Incontinence of Urine during sleep.* By J. CARPENTER FRAZER, M. D.

THIS disease, if it may in all cases be so termed, originates generally from habit, which, when once thoroughly confirmed, renders the aid of medicine of little avail. By the long continued inattention of the patient to the state of the bladder during sleep, the sensibility of its neck becomes obtunded, and does not, therefore, prevent the illusive ideas of dreams from producing a discharge of urine. It is a fact worthy of notice, that the evacuation seldom, if ever, occurs during the first or sound sleep, but almost invariably at a particular period of the second, when dreams are present. It appears probable that the disease depends occasionally on a very different cause, an irritable state of the bladder, which renders it unable to retain its contents, when unassisted by the will. This state, it is evident, will demand a treatment directly the reverse of that required by the other.

C. W——, a young girl, aged fourteen, had been in the habit of urinating during sleep from her infancy. It commonly occurred about three o'clock in the morning, when her sleep was disturbed by dreaming. She is unusually robust, and perfectly healthy in every other respect. She had been under the care of two physicians for a long time previous to my seeing her, without, however, deriving the smallest benefit. Deeming that the sensibility of the neck of the bladder was diminished, they had each prescribed tincture of cantharides, in order to excite a slight inflammation in that part. This medicine was continued for a long time, and the dose enormously, *but gradually*, increased; yet no alleviation was effected, and the parents gave it up in despair.

As the girl had now arrived at the age of puberty, and felt

her situation peculiarly distressing, her parents determined to give medicine another trial, and accordingly applied to me for advice. Having heard the history of the case, and mode of treatment formerly pursued, I determined to follow a method entirely different, on the supposition that the bladder was too irritable to contain so large a quantity of urine as was secreted during the night. With this view, I prescribed tinct: opii, in doses of xxv drops, to be taken at bed time, and gradually increased; ordering her at the same time to evacuate the bladder before retiring, and to guard against all causes that would excite the kidneys into action. This plan was strictly adhered to for three weeks, but had no beneficial effect whatever. Being now convinced that my first inference was erroneous, and that there was a deficiency of sensibility, cantharides were resorted to; ten drops of the tincture, combined with as much laudanum, to modify its action, were taken three times daily. The patient continued these medicines (slowly enlarging the dose) for two weeks, yet the morbid habit still continued unabated. Imagining that the parts became accustomed to the gradual increase of the dose, and were thereby not affected by it, I ordered the quantity to be *rapidly* enlarged; and the patient, acting on the principle, that if little be good, much is better, took upwards of a table-spoonful of the compound, nearly three times as much as she had hitherto taken at any one period. This brought on slight inflammation of the neck of the bladder, which compelled her to get up and urinate thrice that night, since when she regularly obeys the slightest calls during sleep, evincing that the natural sensibility of the bladder is restored, and that she is perfectly cured of her disagreeable and disgusting habit, as it is now three months since it disappeared.

That which is chiefly worthy of remark in the preceding case, and must forcibly strike the reader, is the total inefficacy of medicine, whilst increasing in a gradual ratio, and the instantaneous effect produced by a dose much greater than that to which the parts had been accustomed, checking at once a habit, which, it is plainly evident, would never have been influenced by the gradual plan of enlargement, even had the quantity been quadrupled.

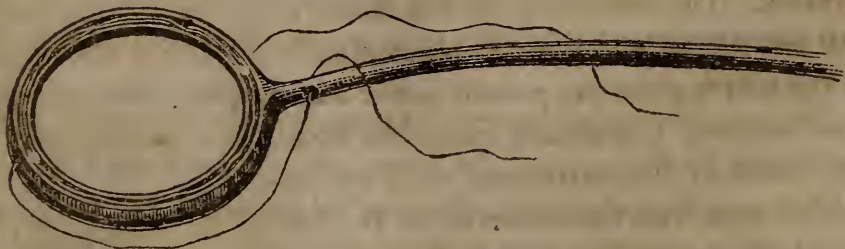
It may be of service to attend to the lesson here taught us. In numerous instances where we wish to produce a specific effect with a medicine, instead of increasing it in a steady ratio, we should at once prescribe a considerable quantity; and we should not, I am convinced, be under the necessity of recording such repeated failures as heretofore.

To evince the extraordinary influence of the mind, I will relate the case of this girl's father, as given by himself. When a boy, he was troubled with the same habit, upon which all the usual means had no influence; neither shame, nor the fear of punishment, nor the power of medicine, had any effect in relieving him. At length he was cured by having a powerful impression made on his imagination. Hearing from some old seer, in whose wisdom he implicitly relied, that if he would catch a mouse, roast and eat it, it would cure him, he complied with the prescription in every particular; and such was the power of the imagination, that from that moment the habit ceased, and never afterwards returned.

In No. 11 of Johnson's Journal is a notice of a memoir, by Mr. Samuel Lair, in which most cases of incontinence of urine are referred to a want of equilibrium in power between the body of the bladder and its neck. He recommends, therefore, and practised with success, where other means had failed, the introduction, by a catheter, of tinct. of cantharides, so as to touch the prostatic part of the urethra.

Ed.

ART. II.—*Description of an Instrument for Extirpating Enlarged Tonsils.*



THE accompanying cut represents an instrument which has, for many years past, been used with convenience and complete success by Dr. Smith, of New Haven, for the extirpation of enlarged tonsils. It consists of a ring of iron wire, from one side

of which there projects a shaft, or handle, sufficiently long to reach the tonsils, with a piece of wood attached transversely to its extremity for the convenience of holding it; on one side the ring has a groove all round it; in the bottom of this groove it is perforated in two places, one near the handle, the other opposite to this, and these perforations are obliquely outward from the centre of the ring. Another hole is made through the handle, close to the ring, and parallel with it.

A single, or a surgeon's knot, being loosely formed with a waxed ligature, the loop of which is left so large that it may correspond to the ring, is laid into the groove; one end of the thread is carried through the hole near the handle, the other, through that which is opposite, and then around on the outer margin of the ring, where there should be another groove for it, to the hole in the handle, which having passed through, it comes again in contact with the other end of the thread. One end, then, is in effect thrown round a pully, so as, when drawn, to act opposite to the other. The ring being placed over the tonsil, it may be pressed firmly down around its base, and if, then, the threads be drawn, the knot will be firmly tied upon the neck of the tumour.

If it be desired to double the knot, it is only necessary to tie another single one, and passing one end of the thread through the most remote hole in the ring, to slip it up to the first knot; but the surgeon's knot is sufficient.

This apparatus is, in our opinion, preferable to the double canula and wire, even when used after the ingenious method of Dr. Physick. The latter must be left on for some time, or the tonsil will not fall off, and while its application is continued, the canula in the mouth gives the patient great uneasiness. Nor can the wire be brought so closely round the base of the tumour, as can the thread by the instrument which we describe.

This apparatus was invented by Dr. Smith, but bears some resemblance to one described by Hildanus. The necessity of such an apparatus may have suggested it to others, but none such is now in general use.

ED.

ART. III.—*Remarkable Case of Abscess of the Liver bursting into the Pericardium.*

THE following interesting case of pathological anatomy occurred last winter, in the dissecting room of Jefferson College.—The subject was a black female of about thirty-five years. On opening the abdomen there was discovered a prodigious abscess of the liver, occupying nearly the whole volume of that organ, and filled with an offensive pus, deeply coloured with bile and the dissolved substance of the organ, shreds of which were floating in the fluid. The colon was firmly adherent to the inferior surface of the liver, and ulceration was rapidly eroding the septum thus formed between the cavity of the colon and that of the abscess. But what was most remarkable, and I believe unique, (though perhaps I mistake) the liver had formed a similar adhesion to the diaphragm on the left, beneath the heart. Through this adhesion an opening had been made into the cavity of the pericardium, and this cavity was filled with at least two pints of the same dark sanies which occupied the liver. The fluid must have occupied the pericardium for a considerable time, since that membrane was distended much beyond its natural capacity, and since, also, the surface of the heart was thickly studded with short, tooth-like processes of concrete albuminous exudation, giving it an appearance which Laennec has compared to that produced “by the sudden separation of two pieces of slab joined by a pretty thick layer of butter.”

Abscesses of the pericardium, even containing a much greater quantity of matter, are not very uncommon, but it is very rare that nature, as in this instance, foils her own recuperative efforts by conveying, from another part, the contents of an abscess into this cavity, where it must necessarily prove fatal.

The previous history of this case could not be obtained.

ED.

ANALYTICAL REVIEW.

ART. I. *A Treatise on Physiology applied to Pathology.*
By J. V. BROUSSAIS, M. D. Translated from the French,
by John Bell, M. D. and R. La Roche, M. D. Philadelphia.

THE medical profession in our country, the reading of a large majority of which is confined to English literature, owe much to Doctors Bell and La Roche, for the faithful translation of a work so highly esteemed abroad as is that which we are about to analyse. The pathological doctrines of Broussais are undoubtedly familiar to many of our readers, they having often been subjects of analytical exposés, and of much interesting discussion in the journals of the day. In the work entitled as above, the distinguished author develops those physiological principles and inductions peculiar to himself, on which his pathological doctrines are founded. The work is not the less valuable to the physician, that, throughout, it is made subservient to the elucidation of the phenomena of disease. As exhibiting hypotheses which are exerting a surprising influence on cotemporary medicine, and as enforcing them with great logical precision, the work is invaluable. It is not to be supposed, however, that the author designed it as an elementary and complete system of physiology, since, as such, it must be regarded as defective. M. Broussais dwells with parental partiality on those topics which have been elucidated by his own observation and inductions; others are briefly discussed, rather, it would seem, for the purpose of connecting his peculiar views, and giving unity to the work.

By the most attentive perusal of the volume, the reader will acquire but little knowledge of the rapid progress of physiological science within the few past years, or of those numerous and important facts, elicited by experimental inquiry, so characteristic of the age. The author is especially censurable, as having fallen into some palpable errors from not adverting to those data which have recently been furnished by the English experimenters.

We cannot, therefore, regard it as a good digest of the mass of facts now accumulated in relation to the science of life, nor is it at all calculated to initiate the student into its elements.— But although it has not these merits, it has those of a more exalted character; it is original, profound, and practical.

In regard to the character of the translation, we would observe, with deference to the intelligent gentlemen who are its authors,

it, in their laudable effort to give always, with precision, the qualified sense of the writer, they have rendered their phraseology too literal, and have retained too much of the Gallic idiom. This is apparent, not only in particular phrases, but in the general structure of their sentences, which should have been reduced to English rules of taste. From their rigid adherence to the dictum of the author, they have also, at times, been compelled to use words for their purpose, from the French, some of which are neither necessary nor elegant.

These observations, if correct, cannot appear trivial to any one who is desirous of witnessing an improvement in the faulty style of our medical writers. Errors of style, committed by one who communicates original observations, in the form of an essay, are indeed venial; but those of a translator, his task being altogether literary, should not pass unnoticed; certainly not, if his subject be a systematic treatise, to be placed in the hands of pupils.

We proceed to give such an abstract of the work as shall acquaint our readers with its principles and reasonings.

The arrangement adopted by Broussais is extremely simple. He recognises the division of the vital phenomena into—1st, *Animal Functions*, or those of *Relation*. 2d, *Organic*. Having treated of the *Normal*, or healthy function, of each organ and apparatus, he treats of the *Abnormal*, or pathological, conditions of each.

Passing over the author's "idea of man," contained in Chap. I. we notice, first, his remarks on the composition of the human body.

M. B. adopts the usual distinction of solids and fluids: the first constituting the textures of the organs—the second their moveable contents. The proximate animal principles into which, with varying proportions, the textures may be resolved, are gelatine, albumen and fibrine; of these are formed filaments or fibres, the bases of the tissues. An *organ* is a compound of textures, so constituted as to contribute to the maintenance of life; an association of organs is an *apparatus*, and their common office, as that of the digestive organs, a *function*. The principal apparatuses are the viscera. There are, also, associations of organs not confined to cavities, termed organic *systems*:—as the vascular; nervous; serous, lining the closed cavities; synovial, investing the joints; fibrous, covering bones, forming ligaments, aponeuroses, sheaths, tunics, &c.; osseous, the firm basis of the system; cartilaginous, employed where firmness and elasticity are required, as in the joints; the muscular, the active instruments of motion.

In the embryo the whole system is but a whitish, albumino-gelatinous mass. The cellular or areolar tissue is first developed as the matrix of all the organs, uniting their several parts, and distinguishing them from each other. This, according to M. B., is formed of gelatine. Into this web are wrought the characteristic fibres of the organs. The bones are gelatine, with

phosphate of lime. All the white organs, except the brain and nerves, as the cartilages, ligaments, &c. are gelatinous. The muscles are essentially fibrine, a substance identical with one of the constituents of the blood. All the soft matter of the brain and nerves is albumen. The blood-vessels are, in part fibrinous. The proximate elements, gelatine, albumen, and fibrine, are all present in the blood.*

Our author's chapter on the vital properties of the tissues, contains many judicious observations, together with some which we deem objectionable. With what is said of those elementary vital qualities, *sensibility* and *contractility*, by Haller, Bichat and others, every one is familiar. M. B. very properly objects to the organic sensibility of Bichat. According to the latter, it necessarily exists wherever contractility is manifested, and is that which feels the stimulus, while contractility is the susceptibility of contraction, or shortening. This is certainly a hair-splitting distinction. What evidence have we that a tissue feels but its contraction on being irritated? And what, then, is its contractility, but its property of responding to a stimulus; in other words, its sensibility?

The author observes, that the contractility of muscles necessarily depends on their chemical composition. Undoubtedly a peculiar chemical constitution is essential, but certainly there is superadded a property never seen in the physical condition of matter, and which in its nature is inscrutable.

In our opinion M. Broussais commits a capital error in confounding the cause of those obscure movements belonging to the inert tissues with the contractility of the muscles. It is termed by Haller the *vis mortua*; by Bichat *contractility of texture*. It results from their physical texture, which, indeed, is wrought by the powers of life, but which survives the destruction of those powers, and is, therefore, not a vital property.—The physical properties of the bones, the ligaments and the cartilages, are conferred by the vital properties of the blood-vessels which organise them; but, once conferred, they are permanent—for the bones are as rigid, the ligaments as tenacious, and the cartilages as elastic, after death, as before. M. B., nevertheless, asserts, with great confidence, that these qualities are to be regarded as vital, because conferred by vital properties, and for

* We should here state that chemists by no means agree in regard to the relative proportions of gelatine and albumen employed in the system, or in regard to the nature of these substances. Many analysts assert, that all the fibrous tissues derive their tenacious and elastic properties from the presence of albumen, the physical nature of which would seem to favour the idea. Among these are Bostock, Hatchett, &c. The latter states, what, perhaps, may reconcile the different results of experimenters, that oxygen converts albumen into gelatine.

the purposes of life. What! are the ivory instruments which we use, hard by virtue of a vital property while in the tooth of the animal, because it is then subservient to the purposes of life, and by a physical one, when employed for other purposes? I do not deny that all these textures may possess other properties, which are vital, but certainly hardness, tenacity and elasticity are physical properties, and the apparatus of life is constituted by superadding to them the elementary vital properties. The author has, therefore, attempted an unprofitable innovation on the language of Bichat and Haller, and one which would deprive our science of one of its most beautiful principles.

Nor, in our view, is he more fortunate in his strenuous efforts to do away with the idea of *sensibility* as an elementary vital property, and which most physiologists confer at least upon the nervous system. M. B. would resolve it into a mere function of the contractile property of the sensitive tissues. According to him, any cause which excites sensation in a part, excites its contractility, and the movements resulting, influence mechanically the sentient nerves, which excite, in the sensorium commune, similar movements that are perceived by the mind. The principal argument on which he relies is this: When a part is irritated, there results no sensation, if the nerve be divided, and he asks if the vital properties are not still present? They undoubtedly are—but there is a distinction to be made between sensation and perception. The sentient extremities undoubtedly perform their part, although the brain no longer perceives it. Can the brain perceive without the nerves? or can it perceive through the medium of blood-vessels or muscles, in which contractility is vastly more vivid than in the nerves? The nerves then possess a property, either physical or vital, which is necessary to sensation, and which puts them in relation with external substances. The nerves, and the nerves alone, are qualified by a peculiar property to perceive light, sound, and other modifications of matter. Is this not a property peculiar to living tissues? and, of these, is it not peculiar to the nerves?—It is certainly, like contractility, to be regarded as an elementary property, until its physical nature can be shown. It is a mere hypothesis of the author, that impressions excite movements in the irritated part, which, vibrating through the nerves, excite similar movements in the brain, and are thus perceived. Besides, to prove that sensation is not a mere operation of the intellect, it is only necessary to cite the experiments of Philip.—When the head of an animal was amputated, and the arteries secured, the heart still beat; but when the spinal marrow was crushed, this organ seemed agitated, for a time pulsated irregularly, and then resumed its regular beats. It perceived, through its nerves, the lesion of the spinal marrow. Facts are abundant to prove that organs are sensitive independently of the brain.

M. B. does not appear to regard contractility as analogous to those properties of inert matter, cohesion, gravitation, &c. into which physical phenomena are resolved. Contractility alone, he says, cannot be regarded as adequate to all the varied phenomena of life, as, for instance, the determining of the form and volume of organs; the organization of bone in one part, of muscle in another, and the cerebral matter in a third. We do not, indeed, understand how it can accomplish these results, because we do not know its nature or modifications. Neither do we in physics understand why mere cohesion should at one time produce the diamond; at another, anthracite; and at a third, charcoal, out of the same substance. It would be unphilosophical, however, to ascribe these physical phenomena to an indefinite physical power, or archeus of the universe. Cohesion will, in all probability, soon be shown to be a mere result of other properties, but the Baconian logic will not suffer these to be spoken of until they are experimentally developed. So with regard to the vital properties, sensibility and contractility, they may, indeed, be finally resolved into others more remote, but we have not yet sufficient data to effect this; and, until we have, it is unphilosophical to suppose an indefinite, vital power, or vital principle, like the anima or the archeus of the older writers; it is a mystical reply which satisfies without enlightening the inquirer. It helps us out of none of our difficulties, and adds nothing to the science. Our knowledge of sensibility and contractility is, indeed, incomplete, and perhaps may ever remain so, but they are the last of the causes and effects to which we can trace the vital phenomena, and every function can be resolved into them.

Vital erections are spoken of by our author as distinct from the movements of contractility. They result from the afflux of fluids, are most remarkable in vascular parts, and are accompanied by an exaltation of vital phenomena. It is local irritation which determines the afflux of fluids to a part, and the vital erection which results, impressing the nerves, excites through them and the brain similar erections in other parts.

Of those agents, or stimuli, which excite the phenomena of vitality, the author recognizes—1st, the direct; and, secondly, the indirect; which last first depress action, and thus provoke *vital reaction*, a principle with which observation makes us acquainted. The principal excitants are caloric, and those substances destined to the maintenance of the functions. The causes which check the vital manifestations, called sedatives, are positive or negative. M. B., however, doubts whether there be any of the former; the latter are mere deprivations of accustomed stimuli.

CHAPTER IV.—*Functions of Relation.* The organs which establish between us and surrounding objects the interesting relations necessary to our existence, are the brain, spinal marrow, senses, skin, the locomotive apparatus of bones and muscles,

and the organs of the voice. Our author's observations on their functions are exceedingly interesting.

He observes, that all our relations, result from certain *wants* that are perceived in our organs by the brain, which is the centre of relation. Whenever the external senses perceive that substance in nature which corresponds to the particular want then felt, the brain is instantly apprised of it through the nerves, and the animal feels the desire of appropriating it to itself. The perception of a relation depends on the state of the internal organ at the time that the impression is made on the external sense; thus, at times, the brain perceives the want of food in the stomach, and then alimentary substances produce an impression on the external sense, which excites in the brain a perception of the relation between it and the stomach; were the stomach satiated this would not be perceived. The following series of actions must take place: The external substance, impressing the senses, excites a general perception in the brain, which is reflected by the nerves throughout the whole system. If there exist, in any viscus, a want which seeks the substance perceived, that viscus immediately reciprocates an impression upon the brain, which then perceives the relation. Every organ, then, through the medium of the nerves and brain, receives the first impression of the external sense; but only those react upon the brain which have a want to which the substance responds. When one looks upon a beautiful female, the perception is conveyed by the brain and nerves to all the organs, but the most vivid sensation is in the genital organs, and they react upon the brain, causing it to perceive the relation, and producing physical love, or the desire to gratify the want, and the effort necessary to its gratification. This does not take place if the genitals do not feel the want, and never if they do not exist. Whenever the brain perceives a relation, or feels a desire, it reacts on the locomotive apparatus to effect its gratification. All these are the operations of what is called *instinct*, and in the lower animals the gratification promptly follows the desire, but in man instinct is modified by intellect, as we shall by-and-by see.

CHAPTER V.—*External Senses.* The first of these is the skin, which is rendered sensitive, especially in particular regions, by the interlacing of nerves. The second is the sense of sight, and the third that of hearing. On these topics, however, the author adds nothing which is new or particularly interesting.

CHAPTER VI.—*Brain and Spinal Marrow.* It is not necessary to notice his brief description of these organs, except with reference to certain particulars. In regard to the cerebrum, he conforms in part to the opinions of Gall, who divides it into the gray or vascular pulp, and white, fibrous or nervous structure, which latter, being continuous with many of the nerves going to different parts of the body, is called the intra-cephalic nervous apparatus. This performs offices relative to intellect, in a

degree independently of the rest of the brain. The medulla oblongata is the centre of all the nerves, and of all the cerebral apparatus. It is, therefore, the *sensorium commune*. If we cut away all the encephalic mass above this, an animal still breathes, but make a section of the spinal marrow below, and it dies.

CHAPTER VII.—*Instinct and Intellect*. To define and distinguish these faculties the author refers to his remarks in the preceding chapters. The perception of those internal wants, of which we have spoken above, he supposes to take place in the mucous linings; which, therefore, constitute an *internal surface of relation*. When an external substance acts on an organ of relation, and the impression first conveyed to the brain is thence sent to the viscera, if it there excite a vivid sensation, and this re-act with energy on the brain, prompting to certain acts for the continuance of pleasure or relief of pain, this impulse is called instinct. In other words, it is the strong expression of our internal wants. Intellect is also a principle which springs from our wants, but, in this case, they are remotely, and sometimes unconsciously felt, and are often factitious—the offspring of education.

But more particularly of *Instinct*. Gall supposes this principle to reside in the brain, and to occupy a particular nervous apparatus. M. B. admits that the brain is necessary to determine the acts of instinct, but asserts that the principle itself, which gives the first impulse, is seated in the viscera. In other words, it consists of the *wants* of which we have spoken above. Animals, which have *always* the cerebral organs, are not moved by instinct, unless a particular viscus be in a certain state.—Animals do not seek prey when the stomach is satiated. The female does not seek the male, but when the genital organs are excited. Birds do not build their nests but when the egg is forming. The male entirely loses his instinct of physical love when the testes are removed. It is a peculiar excitement and sensation in the abdomen which prompts a hen to cherish her eggs;—dip her belly in water several times, and she no longer desires to incubate.

Instinct presides over those acts which are perpetually necessary to life. The will, therefore, is not permitted, but in part, to control them. One of these acts is respiration, prompted by a want of air perceived in the membrane of the lungs.—Others are those of procuring and appropriating food. Next are the acts prompted by the instinct of self preservation. The venereal appetite, or the instinct of reproduction, powerfully actuates the system. Maternal fondness is a native instinct, which prompts the parent to cherish her offspring.

In certain morbid conditions of the organs, which are the seat of instinct, the impulse of the principle becomes surprisingly exalted or perverted, and irresistibly controls the cerebral acts. In gastro-enteritis, we cannot forbear the acts necessary to seizing drink; in febrile paroxysms, those necessary to obtaining cool

air; nor, in phrenzy, the acts of vociferating, running, striking, and even suicide.

To the idea of Bichat, that instinct resides in the sympathetic or ganglionic system of nerves, M. B. objects, because it is most powerful in certain organs supplied by the brain, as the stomach and genitals.

The impulses of instinct, are opposed or qualified by those of the intra-cerebral nervous apparatuses, in which intellect resides. The domain of intellect is proportioned to the development of these apparatuses. Those animals which have no brain obey their instinct implicitly and without delay: thus the fly plunges into honey without contemplating danger; the spider, on the other hand, which has a brain, resists his appetite, and will not touch the fly entangled in his web, when he sees or hears an enemy. Birds do not approach their nests when they are observed. It is very remarkable that there is an instinct given to some animals, which prompts to their own destruction for the instinctive wants of other animals. It is this principle which causes the tom-tit to flutter round the serpent, which is said to charm it, and into the jaws of which it finally falls.

The author, in our opinion, makes an unwarrantable and perplexing distinction between *intellectual* and *instinctive* operations of the intra-cerebral apparatuses. He says that the stimulations coming from the intra-cerebral apparatuses, often modify or resist those coming from the viscera. Thus, a carnivorous animal, though urged by hunger, abandons his prey when he sees a powerful enemy; but this, he says, is not the result of reflection, but only of one instinct contending against another. What, then, is the intra-cerebral apparatus the abode of two general principles, instinct and intellect? To us it appears far more rational to suppose that the intellect of the lower animals differs from that of the higher, only in combining a less number of those faculties which constitute that general principle.—Some of the higher orders of animals, which approach to man in their physiological nature, assert irresistibly their claims to intellect, and in them this faculty is susceptible of education to such a degree as to control, remarkably, the impulses of instinct. The pointer is trained to resist the impulse which prompts him to spring the lurking covey; the noble horse obeys the word and motions of his master, and gives satisfactory indications of acquired attachment, ambition, memory, &c. These superior endowments are observed to correspond to the degree of cerebral development, although there are some apparent exceptions. Instinct, however, often subdues intellect in these animals. The venereal appetite, imperious in the dog, for a time destroys his docility, and causes him to abandon his master.

(To be Continued.)

ARTICLE II.—*Journal des Progrès des Sciences et Institutions Medicales en Europe, en Amerique, etc.* Par une Association de Medecins. 1er Volume, 1827. Paris.

It will not be our custom, generally, to embrace in our analytical department, reviews of foreign journals, the spirit of which will be condensed into our abstract of foreign medicine. The elegant and elaborate volume, however, which, under the above title, begins a series of eclectic essays, having for their object the universal history of cotemporary medicine, demands particular notice.

Of the numerous periodicals at present devoted to medicine, this appears to us to display, in its typographical execution and arrangement, the greatest degree of taste and judgment. It would be invidious and premature to say the same of its character for scientific research, but certainly the present number is replete with interesting and valuable matter. It is obvious that the editors, in the getting up of this work, must have had an eye to that prototype of all modern medical periodicals, the London Medico-Chirurgical.

In the introduction, which develops fully the plan of the work, the editors, after speaking of the advantages resulting to science from the former exclusive employment of the Latin language, and the disadvantages of the present multiplicity of tongues, make the following remark: "The end to be attained, and the idea of which must constantly direct our enterprise, is, we repeat, to establish an unity of tendency in our efforts, and an identity of progress; in a word, to re-establish that general and simultaneous advancement toward perfection, that was observed in the medical world before the use of the Latin tongue had given place to the employment of the different national languages." A most noble object, and worthy of the talent which it seems to have called forth. In obedience to it, we find that they have, with the most patient research, sought out the sources of cotemporary medicine in every part of the world, in order to present *dans un coup d'œil* the remote but converging streams which are tributary to the great reservoirs of knowledge. We are gratified to find that our own medical literature has been conned over with particular care, and that it appears by no means diminutive in the collocation.

The first article which we shall notice in this volume, is an *Exposés of the doctrine of Hahneman*.*—Fortunately for our

* The doctrine of Homœopathia has been briefly noticed in some of our Journals, but not so fully as to anticipate our analysis.

motto at least, in medicine, as in physics, there is scarcely any thing which is not compressible into smaller compass, without loss of substance. The general pathological principles of this doctrine we deem worthy of analysis and translation, as being the production of a mind which leaves its stamp upon the learning of its time. In the German journals, the Homœopathic theory, as it is termed, is a topic of no inconsiderable interest, and has elicited many interesting commentaries, among which are those of Hufeland and Lichtenstaedt, whose remarks accompany the present exposé.

Although its general conclusions will be rejected, yet it is the vehicle of many valuable facts, that bear upon obscure points of pathology. It is astonishing with what zeal and restless inquiry one searches out facts to substantiate a favourite hypothesis. Such labours are not in vain, for although the structure which is thus erected fall, the materials are left for the hand of other architects.

Homœopathic is a word of Greek origin, signifying *like the disease*, and is chosen, because in the therapeutic method, thus termed, the object is, by remedial agents, to excite an action nearest like that of the disease. It is used in contradistinction 1st, to *antipathic*, in which method the remedy is supposed directly to antagonise the symptoms; 2d, to *allopathic*, in which it excites a new and different action.

The fundamental principles first developed are these: 1st, Morbid Anatomy, being obscure and uncertain, should not constitute the basis of therapeutics, which should rather be founded in those *obvious* changes that first result; in a word, the totality of the symptoms, they furnishing the only infallible indications; 2d, the treatment which dispels *symptoms* must remove the occult *interior derangement*, of which they are the inseparable expression. 3d, The relation between remedies and diseases is only to be ascertained by observing the effects of the former. 4th, We cannot generalise nor abstract the remedial properties of medicines, because each case of disease (except those of plague, small-pox, &c.) has peculiar traits. It is necessary, therefore, to look to some other source for general therapeutic principles. These, according to Hahneman, are to be ascertained by observing the effects of medicines on man in *health*, which effects are uniform. Medicines have two general effects, 1st, they restore health in the sick; 2d, they impair it in the sound. It is by virtue of their power to influence the *healthy* system that they sometimes become remedies, and restore health in *disease*. All remedies have one of the three relations to the disease of which we have spoken in our definition, that is, they either antagonise, change, or concur with the disease. On the latter relation, strange as it may at first appear, is founded the Homœopathic

principle of cure. This, says M. Hahneman, is the only one of which the efficacy is complete and uniform, a conclusion at which he professes to have arrived by experience. He explains it thus:—When the effects of a medicine are perfectly like those of the natural disease, it influences at once the organ which is its seat; but two similar maladies cannot exist at the same time in the same organ; and the artificial one, being the more intense, supplants the other.* The principle of reaction, so remarkable in the system, and which operates unfavourably in the antipathic method, is here salutary; an impulse being given which is like the disease, a reaction takes place that is dissimilar and overcomes it.

Medicines employed on the homœopathic principle are to be used in minute doses, since those agents which excite action similar to the disease will promptly influence the system. But one article is to be employed at a time, because, otherwise, it is impossible to compare the symptoms produced by the medicine with those of the malady.

We cannot more effectually render this sketch intelligible than by presenting the remarks of Hahneman on the remedial nature and application of some one or two of the most important medicines, as an exemplification of his principles.

OPIMUM.—This article, says H., ought never to be employed for the purpose of counteracting pain.† Certain habitual and obstinate constipations; coma, with stertor and yawning, accompanied with burning heat and copious sweat, find in it a homœopathic remedy of great efficacy. The action of opium continues a day and an half.

Symptoms produced by it are gay or furious delirium; profound insensibility of the limbs and of the intestines; retention of urine from insensibility of the bladder; pulse hard and full; skin hot, covered with sweat, particularly in the morning; disturbed sleep; determination of blood to the head; dryness of the tongue; coma; sleep; stertor; eyes and mouth half open; torpor of intellect; gaiety, alternating with sadness; fortitude; intrepidity; timidity and despondency, secondary results.

Antidotes.—Tincture of ipecacuanha; camphor; strong coffee.

CINCHONA.—*Symptoms.* Vertigo; epigastric oppression; cardialgia; colic; diarrhœa, (constipation a secondary effect;) abdomen swelled; discharges fetid; heat in the umbilical region; propensity to chills; congestion in the head; forehead hot; extremities cold; chills and heat without thirst; small pulse; copious

* Will it not occasionally become identified with the disease?

† We have heard a learned teacher of medicine, in this country, express a similar heterodox sentiment.

sweating; tumefactions of the liver and spleen; jaundice; numbness of the limbs; venereal appetite; palpitations; disturbed sleep; slight delirium.

Antidotes.—Ipecacuanha, arnica, belladonna, &c.

The above effects of cinchona suggest to Hahneman its employment, on the homœopathic principle, against intermittent fevers, the symptoms of which, according to him, strongly resemble the above artificial malady, and thus he explains the well known salutary influence of this remedy in these affections.

We conclude the above with an analysis of the critical remarks of Hufeland and Lichtenstaedt, in order that, if any thing pernicious may have been conveyed in the above, the antidote may accompany the evil.

The former of these commentators observes, that, heretofore, the only rational general mode of treatment admitted, has had for its object the *causes* of disease. Of these there are, 1st, the remote; 2d, the proximate or immediate. Medicines are often employed with precision to heal by obviating the first kind of causes; but not always, because those sources of disease are sometimes inscrutable, and also because the proximate or organic cause persists after the removal of the first. In such cases the physician should combat the latter. But as these interior causes cannot be known but by their external signs or *symptoms*, the treatment must be governed by the latter. With reference to these there are two methods, first, the *palliative*, founded on insulated symptoms, and second, that which may be termed *complete*, and is directed against the general expression or character of the disease.

The therapeutic method which at present prevails, for the most part, accords with the homœopathic. Hufeland has termed it, in his writings, the *specific* or *direct*, and the means employed are called the *specific* or empirical. He observes that the school of Hahneman will render essential service to medicine, in perfecting that part of the specific treatment which constitutes the homœopathic method. He protests, however, against their pretension of having discovered a general and unique method in that which he thinks must always be subordinate to the indications furnished by the cause. So far they have chosen the curative means from among those, the effects of which upon the organs induce us to regard them as opposed to the causes, or at least to the symptoms of the malady; but we also employ homœopathic medicaments. That, then, which is new in the doctrine, is its generalisation. To sum up the advantages and disadvantages resulting from this doctrine—of the former there are several:—1st, It will recall the attention of physicians to symptomatology, which at present is too much neglected. 2d, It will give to dietetics due importance. 3d, It will undeceive ma-

ny physicians who believe it necessary to employ very large doses of medicine, since it urges the sufficiency of those that are minute. 4th, It will simplify prescriptions. 5th, It will lead to a more precise knowledge of the properties of medicines. 6th. It can never directly effect mischief, the doses employed by the disciples of Hahneman being exceedingly minute. 7th, It allows nature more time to rally her powers.

The evils which may result from it are—1st, That it may induce imperfectly educated physicians to adopt a plan of treatment wholly relative to symptoms. 2d, It may render the study of medicine superficial. 3d, In practice it may lead to fatal errors of omission.

The learned and venerable Lichtenstaedt makes the following observations:—

The experiments of the homœopathic school seem to indicate new modes of treatment, and they merit careful repetition, especially in those cases in which the ancient therapeutic method has little or no efficacy; but in those cases in which their fortunate results may be confirmed, the scientific relations of the facts ascertained, will be very different from those ascribed to them by Hahneman. The new doctrine confirms one thing already known, that different quantities of a medicine have effects which differ from each other, not only in their intensity but their nature. The fact is worthy of further elucidation by new experiments, made after the two extreme methods of Rasori* and Hahneman, but especially the latter, because the least dangerous.

In addition to the remarks of these learned commentators, we would hazard a few words in relation to the principle of reaction, of which the homœopathic school appear in their practice to avail themselves. That medicines, which seem more or less to identify their action with that of the disease, do, either upon this or some other obscure principle, sometimes act as remedies, must have been observed by every one. In cases of violent tooth-ache, we are accustomed often to apply to the part substances of a most acrid nature. These, for an instant, excite the most agonizing sensations, undoubtedly because the irritation and inflammation are at first aggravated by the application. But when the irritant is removed, and the artificial excitement begins to abate, as it would in a healthy part, the reaction having, as it were, acquired momentum by the more powerful efforts of nature to repel the second impression, produces a recoil, which reaches more nearly the state of health. It

*An eminent Italian physician, whose doctrines bear some analogy to those of Brown.

is upon this homœopathic principle that stimulating applications in certain other inflammatory affections, as, for instance, ophthalmia, are sometimes very salutary. They first aggravate the symptoms, but the agent, which is at first adjuvant to the disease, being withdrawn as soon as nature is provoked to more vigorous efforts to relieve herself, those increased efforts have nothing to contend with but the disease, which they are then able to overcome. The recuperative powers, in these cases, seem to be roused and concentrated upon the part which is thus doubly assaulted.

There prevails, with certain physicians in the state of Vermont, a peculiar practice in low fevers, which is often salutary upon the same principle. In cases of indolent typhus, of long standing, and in which the powers of life seem almost exhausted—the skin cold and shrivelled—the extremities torpid—the mind enervated—the pulse small, but wiry, and retaining some vigor, the patient is placed upon a rug, and three or four buckets of cold water are dashed upon him in quick succession. He is then placed in a warm bed, and if the vital forces have not sunk too low, they are excited to one last effort, by which healthy action and vital warmth are restored. I speak of this as peculiar practice, because we are generally cautioned against the use of cold water in fevers, when the heat of the surface is below the natural standard. In cases in which nature may have ebbed too low for re-action, it is obvious that this agent would at once destroy life, and such cases have occurred; but, undoubtedly, there are indications which might render the homœopathic employment of this remedy safe. We may illustrate the principle still further. The action of a cathartic is followed by constipation. It is, probably, upon this principle, that cathartics are often useful in diarrhœa, and not always because they evacuate any irritating substance.

It appears to us, therefore, that the principles of Hahneman are worthy of attentive consideration, in order that we may employ remedies of the above character with discrimination.—ED.

Other interesting articles, contained in the above work, we may notice upon another occasion. The conductors have our ardent wishes for their success in this liberal enterprise.

NOTICES OF DOMESTIC MEDICAL LITERATURE.

Horner's General and Special Anatomy, Phila. 1826.—We cannot, without appearing invidious, criticise, at length, this elaborate work, nor would an analysis of the details of anatomy be profitable to our readers. We will not, however, withhold an expression of respect for the character of the work, as a di-

gest of those facts which now constitute the science of Anatomy. In this particular we cannot agree with the New York Medical and Physical Journal, which complains of its not being comprehensive in its selections. Whatever its absolute character may be, it does not suffer by comparison, in this respect, with any work which our own language at present furnishes. We have referred to it, for information on various subjects, with satisfaction, and think it the production of a correct anatomist.—Its faults are chiefly those of phraseology.

Sherrill on the Diseases of Dutchess County, N. Y.—This work we shall notice more particularly on another occasion. It contains many valuable facts in relation to the epidemics of which it treats.

North American Medical and Surgical Journal, No. VI. April, 1827.—The present, as well as the previous numbers of this excellent magazine, contains many interesting articles. We particularly notice Dr. Rhea Barton's account of an original and highly important surgical operation, recently performed by him in the Pennsylvania Hospital. We are happy in contributing to the publicity of an achievement so honourable to American surgery.

The patient, John Coyle, had, by a fall upon the outside of his right hip, sustained very considerable injury in the joint, in consequence of which he suffered long confinement, and ultimately a complete ankylosis of the parts. Dr. B. supposes the injury to have been a mere contusion of the joint, in consequence of which the head of the femur became agglutinated to the acetabulum. The knee presented forward and inward, in such a manner as to render the limb a mere incumbrance. The object of the operation, one altogether unique in surgery, was the formation of an artificial joint beneath the great trochanter. The operation was accomplished by making an incision over the great trochanter, and detaching, from a part of that process, the muscles which are inserted into it, sufficiently to permit the fingers to be insinuated around the bone, before and behind. A transverse section of the bone was then made with the saw, and the divided surfaces being left opposed to each other, were kept in position, as well as the limb extended, by the application of Desault's splint. The result of the operation has been, that he can now move the limb with considerable freedom; can sustain his weight upon it, and walk with merely the assistance of a cane. It should be observed that the re-union of the divided bone was prevented by seasonable motions, impressed upon it for that purpose.

Stevens' case of Suture of the Palate.—It is certainly a little

remarkable that the editors should have pronounced this the only operation of the kind ever performed in this country. A similar operation, performed by Dr. Smith, of New Haven, was recently published in the American Medical Review, and republished in the New York Journal. *Sed forsā non meminisse juvabit.* We have also to complain, though we trust not with a contumacious spirit, of the silence, or careless regard, with which these gentlemen have passed over operations highly creditable to American surgery, that have been done in this city. It is to be regretted that a work exhibiting so much talent should not be characterised by a spirit more liberal and ingenuous.

But if these gentlemen will still be actuated by personal considerations, we may at least hope that they will, hereafter, direct their shafts at him, on whose account they have, in one instance, ungenerously aimed them at another. "*In me convertite ferrum.*" They are certainly good physiologists, and know well how to produce a sensation. We allude to an article in the number of January last, in which they *create* an occasion to speak diminutively and disrespectfully of a distinguished member of the profession in New England. In speaking of a case of prosecution for mal-practice, in which this gentleman was appealed to as a witness, and which was decided by the weight of his authority, they utter the following impertinent censure upon the court and jury:—"In this case, the court and jury appear to have lost sight of a principle of evidence which cannot be too strongly inculcated, particularly in points of legal medicine, that the opinion of one man of acknowledged celebrity and skill should outweigh a mass of negative testimony,* delivered by those who are known to be inferior in knowledge and standing." Here is an invidious comparison drawn between two distinguished individuals, which is altogether gratuitous. So far from losing sight of the principle suggested by the reviewer, it was the very fact, that the standing of the witness in New England is not surpassed, which influenced their opinion. Will the reviewers presume to instruct the court and jury in regard to the comparative estimation in which that gentleman is held by the community in which this case was decided?

The "standing" which the profession and the public in New England have awarded to that individual has not been, like ours, transmitted by inheritance, nor like the reviewer's conferred by all those facilities which are now furnished for the easy acqui-

* What is here meant by *negative* testimony? Is not the testimony of one who declares certain symptoms to arise from contusion as *positive* as that of another who declares that they arise from dislocation? Are not the indications in the one case as positive as in the other? This logic will not enlighten a court nor jury.

sition of medical science. It was achieved by the force of his own intellect, and against every obstacle which can be imagined. Without the advantages of classical education; with no friends but such as his merits obtained for him; with no pecuniary means but such as were the result of his own industry, he availed himself of all the advantages for medical instruction furnished by his own country, and completed his education at the schools of London and Edinburgh. On his return he founded the fourth medical school which was organized in our country. By this there have been educated more physicians than by any other in New England; nor has any one contributed so much as it has done to that general diffusion of medical science which scarcely exists in any other part of the world. Finally, for no adequate reward, he has toiled forty years in the most laborious country practice, that of all occupations most effectually precludes intellectual cultivation; and yet he has done that for medicine, and especially surgery, which will leave behind him a lasting monument. This is the man of whom a stripling editor, that, in regard to reputation, is, as well as ourselves, yet in his swaddling bands, speaks in the terms which we have named; and he does it with no other obvious motive, than either to ingratiate himself with one who has it more in his power to reciprocate reputation, or to indirectly injure another whom he thinks to be in his way.

That editor may, with the same spirit which prompted the aggression, sneer at the feelings which have incited us to these remarks. He may do so—we envy him neither his understanding nor his heart.

We have not sought to provoke the editors of the N. A. Journal to strife; for them collectively we entertain no other sentiments than those of respect, which cannot be diminished but by the repetition of acts of injustice or *inadvertency* like that of which we complain.

The Philadelphia Journal of the Medical and Physical Sciences, No. IX. New Series.—This number commences with a paper from the practical pen of Dr. Dewees on *Bloody Infiltrations in the Labia Pudendi*, which occur during, or soon after, delivery. The doctor believes that these enormous tumefactions arise from the rupture of blood-vessels composing the vaginal plexus, seated immediately behind the corpus spongiosum, the effusion being rapid and the swelling sudden. The internal surface of the labium is everted; is livid; inflames; is excessively painful; often sloughs, and produces a most offensive ulcer. The Doctor recommends to anticipate this event by at once puncturing or incising the tumour. A charcoal poultice is to be applied; cooling laxatives employed, and venesection, should the pulse require it.

Jackson on the Laws of Irritation.—The papers by Dr. J. on this subject are valuable; we may perhaps analyse them on another occasion.

Godman on Irregularities of the Arterial System. It is with reluctance that we point out errors. We should, however, appear very ridiculous in the eyes of foreigners, were we to quote those things as *discoveries* which are found in their most common books. Dr. G. describes, and illustrates by a plate, a small branch of the arteria innominata, which is sometimes sent to the thyroid gland. "This branch," he says, "has not been noted by any one, except Allen Burns." But he particularly directs attention to its occasional origin from the aorta. "As far as we know, at present, no one has hitherto recorded an instance of the origin of this anomalous thyroid branch directly from the aorta." What will be the Doctor's surprise when he reads the following extract from a book which is accessible to every one, and which for two years past has attracted no inconsiderable attention:—

"I have so frequently seen an artery in this situation, that I have been in the habit of describing it under the name of the *middle thyroid*. This is so common an occurrence that it should be kept in the recollection of the practitioner, &c." "*It sometimes arises from the arch of the aorta between the arteria innominata and left carotid.*"

We feel the less compunction in rallying the Doctor on this inadvertency, because, in this very article, he takes unlucky occasion to be severe on some of his brethren. He says that the carelessness of some in not noticing morbid and other irregularities, "is a circumstance with which we might be amused, were not the *stupidity* evinced such as to cause sorrow rather than mirth." We will not fall behind the Doctor in the exercise of this amiable compassion, and will merely drop a tear on his picture, and (alas!) three pages of supererogation (*quis temperet?*)

In this article Dr. G., with much elegance and point, styles himself M. D. et P. "Just Heaven! how does the Poco Più and the Poco Meno of the Italian artists—the insensible, more or less, determine the precise line of beauty in the sentence as well as in the statue! How do the slight touches of the chisel, the pencil, the pen, the fiddle-stick, *et cætera*, give the true swell which gives the true pleasure! O! my countrymen, be nice; be cautious of your language—and never, O! never, let it be forgotten upon what small particles your eloquence and your *fame* depend."—*Tristram Shandy*.

New York Medical and Physical Journal, No. XXI.—This number contains an interesting address, by Dr. Manly, on the subject of Medical Education. This is a topic which at the

present time excites much interest in every part of the world.— We intend that the pages of our journal shall be freely open to its discussion. In regard to it we identify ourselves with no faction, nor association, but with the profession generally.

The same number contains an article by Prof. Joseph M. Smith, urging the importance of *emetics in the treatment of spasmodic diseases*, such as hysteria, epilepsy, colic, spasmodic stricture of the urethra, puerperal convulsions, convulsions of children, &c. We have experienced their salutary influence in some of these affections.

A letter to the Hon. Isaac Parker, containing Remarks on the Dislocation of the Hip Joint, occasioned by the publication of a trial which took place at Machias, (Maine,) June, 1824. By John C. Warren, Prof. of Anatomy and Surgery in Harvard University. Cambridge, 1826.

The subject of this volume is one of no little interest to us, and will, we think, if freely and candidly discussed, lead to the exposition of certain erroneous principles in surgery, better substantiated by authority than by fact and inference. We have the subject under consideration, and only request that our brethren will suspend their opinions till the discussion is completed.

ABSTRACT OF FOREIGN MEDICINE.

PATHOLOGY AND THERAPEUTICS.

HAPPILY for our Science the analytic method of reasoning on medical subjects has been, within the last thirty years, so far disused, that no individual, however splendid his talents, or extended his influence, can ever hope, like Hoffman, Cullen, or Brown, to subject to a single proposition, the whole theories of *life* and *disease*, or to impress an uniform character upon the medical doctrine of his day. At the present time, however, one distinguished individual, together with his disciples, is inculcating a pathological principle, purporting to be substantiated by practical inquiry, which may at least be regarded as the most comprehensive in its relations, and indeed the most characteristic in its influence of all cotemporary theories. On almost every page of medical literature we find the name of Broussais. Every pathological treatise contains a familiar allusion to his doctrines, and to write on similar topics without reference to them, would argue an author to be unknowing and unknown. Accordingly, we find that nearly all European writers, especially on the pathology of fevers, array themselves for or against the doctrine of Broussais.

The pathology of Broussais recognises the elementary tissues of Bichat, and is founded on the physiological relations of these constituents of the organs. The mucous membrane, because the intermedium of communication between organised and unorganised matter, because also of its extreme vascularity and delicate sensibilities, is regarded by him as the out-work which disease first assails, and from which, when won, its influence is diffused throughout the system. An inflammatory affection of the mucous membrane of the digestive organs is termed gastro-enteritis; to this in its acute form are ascribed the greater proportion of acute febrile diseases, and to its chronic form many of those lingering affections comprehended under the name of dyspepsia, &c. The remedial agents suited to these pathological principles are,—depletion, especially local, from the epigastrium; mild sedative, and demulcent medicines, with the most bland aliments.

The pathological doctrine of Broussais, is no otherwise new than as duly appreciating the exceedingly interesting structure and physiological relations of the mucous membranes. In this respect they are certainly original, because based on facts not known till the time of Bichat. That the digestive organs, however, are the seat of many of the most malignant fevers, is a principle common to many writers, and particularly prominent in the pathology of our late illustrious countryman, Rush. Indeed, many writers have treated of fevers as always symptomatic of local inflammation, and every important organ and apparatus has been in turn regarded as its seat. This, at the present time, is by no means an unpopular doctrine in England, and is sustained with great ability by Dr. Clutterbuck, who makes the brain and spinal marrow the throne of disease.

The principles that are particularly opposed to the doctrines of Broussais are those which have been advocated with so much popularity by Armstrong, and which, in fevers, regard the general commotion of the system as the primary disease, and the local affection as its result, although favoured by

a previously enfeebled state of the part, and its comparative inability to sustain increased or unusual action. Similar precepts characterise the valuable writings of Abernethy on the nature and treatment of local affections.

To many of our readers the above remarks will undoubtedly appear trite, but to most they will be acceptable, as enabling them the better to appreciate such traits of foreign medicine as we shall occasionally give under the above head. In making our abstract for the present number, we shall make free use of the last number of Johnson's invaluable Analytical Review, and the recent researches of Andral we condense from an article contained in it.

M. Andral, Jun. on Chronic Gastritis. The author of this memoir is, in pathology, one of the followers of Broussais, and he certainly appears not a little solicitous for the honour and advancement of his favourite principles. In his observations on alterations of the mucous membrane, he first endeavours to account for the non-appearance of any appreciable lesion after death, in the stomach, in some of those cases which are by him regarded as unequivocally chronic gastro-enteritis. The object of the memoir, in part, plainly is to obviate the objections to this doctrine derived from such cases. This he attempts by showing that in all those instances, various diseased conditions of the subjacent cellular tissue exist, and he infers from analogy, that in such cases the disease has retired from the mucous membrane to the parts beneath. He observes that in acute inflammation of these organs, disease progresses, in many cases, from the mucous to the serous coat, abandoning the first when the last becomes affected. A more tangible example, however, of similar changes, he gives in inflammations of the conjunctiva, in which, after that membrane has begun to resume its accustomed transparency, the cellular tissue beneath will sometimes continue inflamed, infiltrated with pus, thickened, &c. &c. The same progress of disease is observed in old gonorrhoea. M. Andral thinks, that when in the stomach this transition of disease is made, although the mucous membrane itself may appear sound and sane, yet its functions are impaired, digestion being slow and painful.

A sound condition of the mucous membrane, however, he observes, is in these cases of rare occurrence, changes almost always resulting in consistence, thickness, form and colour. Induration, thickening, vegetations, &c. are to be regarded as results of chronic inflammation, because if the symptoms have been well observed they will always be found to have indicated gastritis. The same is true of changes of colour. It is to be particularly observed that, according to M. Andral, a *grayish slate* or *brown colour*, not to be attributed to putrefaction, is characteristic of chronic gastritis, as the bright *red colour* is of the acute, although the latter may sometimes occur in the chronic form.

Softening of the mucous membrane of the stomach is the result of both chronic and acute inflammation, but induration only of the former. Induration is less frequently found than softening, and is never associated with the red colour. Softening of the membrane occurs in the stomachs of those who die of phthisis, and usually in the cul-de-sac of the organ, while induration, when it occurs, is at the pyloric orifice.

Are these softenings the result of inflammation? M. Andral avers that they are; first, because they are often associated with unequivocal marks of inflammation, as redness, &c.; secondly, other textures are softened by it, as those of the cellular tissue, arteries, skin, serous membranes, cornea, brain, lungs, liver, &c. In regard to symptoms, as evidence of inflammation, he observes that these so frequently occur, in cases of softening, that their occasional absence is no more remarkable than in those cases of ulceration, &c. of the stomach, when there is no pain, vomiting, nor thirst. The causes of softening are also causes of inflammation. Certain poisons he has observed to produce this effect, also spirituous liquors used in excess; blows produce it in the brain. The effects of remedial agents also prove

the relation of inflammation and softening of the membrane. Tonics and stimulants are found to aggravate, and antiphlogistics to mitigate the symptoms.

The volume or thickness of the mucous membranes may be increased, diminished, or unaltered by gastritis; the first is very common in the chronic form. It may be mere tumefaction, from afflux of fluids, and then is soft; this sometimes occurs in the acute. Augmentation with hardening is peculiar to chronic gastritis, and is owing to increased or morbid nutrition. These morbid growths are of two kinds; first those which are like the indurated or softened membrane itself, and those which are of an altered structure. When the volume of the membrane is attenuated, this usually occurs in the great curvature of the stomach, and is, according to Andral, caused by inflammation; it may however, in some cases, result from atrophy.

In regard to alterations of the other coats, M. Andral describes enlargement of the mucous follicles, resembling rounded granulations, especially occurring near the cardia and the pylorus, sometimes so large as to have a nipple-like appearance, of a gray or brown colour, and with symptoms of chronic gastritis, or indeed all those of cancer of the stomach, as vomiting, lacerating pain, &c.

The secreted fluids are changed by gastritis. An individual entered the Charité, with all the symptoms of this disease, having daily vomitings of some pints of a glairy white mucus, resembling the white of an egg. The coffee-ground fluid so commonly observed, in severe disease of the stomach, was ascertained by M. Lassaigne to contain water, albumen, a free acid, a colouring matter insoluble in water but soluble in Sulphuric acid, and forming a beautiful blood-red appearance. He thinks it to be an organic element, analogous to the colouring matter of the blood. He says also that it is identical with the matter of melanosis. It is a mistake, therefore, that the black vomit is characteristic of cancer of the stomach, as it sometimes occurs without ulceration.

The author speaks of cases of chronic gastritis, in which the cellular tissues, uniting the several coats of the stomach, are attenuated or entirely disappear: the organ then losing its strength, and being sometimes ruptured in vomiting. These tissues, however, are more frequently augmented and hardened, which state is generally described as schirrus of the stomach. It is hard, white, homogeneous, with nothing specific. It often occurs in the colon and rectum, constricting their canals. If this substance becomes vascular, it takes the title of *cerebriform tumor*, said to be developed in the paretics of the stomach. Andral, from minute investigation, regards them as only varieties of the same thing.

Cells and pouches, with gelatinous or honey-like contents, occur in these tissues; they sometimes burst, occasioning ulcers or hemorrhages. These effusions sometimes become melanotic, sometimes tuberculous.

The *muscular-coat* of the stomach generally escapes the disorganising effects of chronic gastritis, but occasionally it becomes either hypertrophied, attenuated, or lost. The blood-vessels also suffer considerable changes. The veins are often found varicose, their walls thickened and diseased; their mouths open at the bottom of ulcers, although no hematemesis may have occurred.

The pathological condition of the nerves, in these affections, escapes observation, yet they probably suffer where no organic disease is obvious.

The stomach sometimes becomes dilated, and occasionally so as almost to fill the whole abdomen; this may occur with natural, thickened, or attenuated walls.

"In this memoir it will be observed that M. Andral attributes to chronic gastritis, several alterations of structure, which usually have specific names, and are supposed to have specific characters—as schirrus, melanosis, &c.

These changes of structure have this one character in common, namely, that they are preceded or accompanied by various degrees of vascular activity, a circumstance which may be proved, or at least inferred, *first*, from the anatomical characters; *secondly*, from the symptoms during life; *thirdly*, by the nature of the exciting causes, which give these diseases their development; *fourthly*, from the treatment found to be most advantageous, namely, the antiphlogistic. But to say that all these diseases have one common character—sanguineous congestion—is only to discover a certain link by which they are connected—not the causes of their differences. How is it, it may well be asked, that during the existence of this vascular activity, or sanguineous congestion, we see spring up such opposite kinds of changes of structure? M. Andral himself candidly acknowledges that we must take into account the predisposing causes, (or, in other words, the specific predispositions) in order to explain or reconcile such different results from the same inflammatory process—and that we must regard the sanguineous congestion as merely an occasional or *exciting cause*.”

Dr. Chambers on Fever.—A paper has recently been published by Dr. C. with practical proofs of the efficacy of a free use of calomel, conjoined with other purgatives, in the common continued fever of England. With other observations not particularly important he makes this interesting remark. The secondary fever which occurs, after a well marked remission, and which, by so many, is regarded as a *relapse* of the primary disease, is symptomatic of organic lesions that are the consequences of continued fever, and they ought so to be regarded in practice. This distinction is certainly one of the utmost importance, and should be impressed upon the mind of every practitioner. The secondary fever thus arising, is as he states, “clearly distinguishable from the primary disease, by its remittent or hectic character, as well as by the extraordinary irritability joined with prostration of strength, which accompanies it after it is established.”

Distinction between Organic and Functional Disease.—A French writer, M. Rostan, in a recent work on Pathological topics, denies the existence of functional disease as independent of all structural derangement of the organ which is its seat. He avers that if the organ be sound, the function must necessarily be so. The writer, who reviews the work in Johnson's Journal, admits that the remark is strictly true, but thinks it perfectly proper that the common language should still obtain, as marking a necessary and practical distinction between cases of disease in which organic derangement is *obvious*, as for instance schirrus of the stomach, and those in which no change of structure is *seen*, as in dyspepsia; although he admits that strictly all are organic derangements. We think, however, that the common acceptance of these terms needs no such apology. Can an organ be said to have its structure deranged if it act for a moment unusually or preternaturally, when excited by an unusual stimulus, or by some commotion in the nervous system? Is vomiting, or the iliac passion, owing to organic derangement of the muscles concerned in it? or is it dependent on morbid impressions conveyed by the nerves? It is true, that it depends, in part, upon *organic movements*, but *organic disease* is a phrase which has long been received to signify a change in the tissues of a part, and not derangement of organic functions. It is however, undoubtedly true, that in many diseases in which nothing but functional disease is apparent, there often lurks organic lesion, and of this every one is aware.

Pathology of the Blood.—We never entertained any doubt that the blood may, under some circumstances, become the subject of primary disease, and the first cause of constitutional disturbance. The senses of smell and taste, which are given us to guard against the introduction of hurtful substances into the stomach, are sometimes inadequate to the performance of their office, they not appreciating the lurking poison; may we not then in-

fer from this analogy, that although the absorbents possess an elective sensibility, which ordinarily preserves the purity of the blood, they may sometimes imbibe that which sullies its vital current?

The system certainly cannot be insensible to the poison thus introduced. The physiological importance of the blood is not less than that of the noblest organ or apparatus in the system. It is perpetually necessary to stimulate the brain to its functions, to diffuse through every part the influence of vital heat, to confer contractility on the muscles, to sustain nutrition throughout the whole system, and to bear away whatever has become deleterious. Is it capable of doing all this when impure, as well as when pure? Then might it be said, that an ulcerated stomach is not a source of disease. Numerous experiments have been performed by M. Segalas in relation to this subject. Alcohol injected into the veins of a dog, instantly intoxicated the animal, and if sufficient to produce death, there was found no remarkable alteration of the solids, but the blood was grumous, and in colour resembling milk that is turned. It was also thickened. The lungs were reddened and more firm than natural. Alcohol injected into the stomach, cavity of the pleura, peritoneum, bladder, and the cellular tissue, acted in the same manner, though more slowly, and with intensity proportioned to the absorbing powers of the part. In the different modes of applying it, extirpation of the stomach did not prevent the peculiar effect. In proportion as the mass of blood was diminished by previous venesection, it required less alcohol to produce intoxication, and more time for the dissipation of its effects. The experimenter concludes, that intoxication is owing to the presence of this fluid in the blood, and to the abnormal action of the latter, thus changed, on the organs, especially on the nervous system. Hence the influence of oil in preventing inebriation, and ammonia in dissipating it. Oil retards the absorption of alcohol while ammonia hastens its elimination.

Similar experiments were performed with *nux vomica*, and to render them the less objectionable, the spinal marrow was divided for the purpose of enervating certain parts of the body. These parts, however, were affected, more slowly indeed, but also more permanently, with the tetanic spasm, (the peculiar effect of the drug) than those parts, the nerves of which were entire; hence it is properly inferred that the blood is the vehicle of the agent. On this principle the action of *nux vomica* in paralysis is accounted for.

“One remarkable phenomenon appeared in these experiments which ought not to be passed over in silence, namely, that when a moderate quantity of *nux vomica* was injected into the blood, the tetanic spasms took on a regular intermittent character, ceasing and re-appearing at stated periods. This is a very curious phenomenon, and perhaps it may one day help to explain the intermittent types of those fevers dependent on the introduction of a miasmatic poison into the system.”

Intermittent Irritation.—In No. 12 of Johnson’s Journal, there is an analysis from the Journal General de Medicine, of the observations of M. Dufau, on Intermittent Irritations, with comments on the same. The intermittent character of certain fevers has been for some time past, a stumbling-block to such followers of Broussais, as would ascribe every thing in fevers to inflammation of the mucous membranes. “M. Dufau observes, that he was one of the earliest disciples of Broussais, and still adheres to that part of his master’s doctrine which assigns a local inflammation as the cause of what are called idiopathic or essential fevers. But he, for a long time, relinquished Broussais’ doctrine respecting intermittent fever, not being able to form an idea of an *intermittent inflammatory irritation*. He now thinks, however, that they arise from the same essential cause. He (as do others at present) believes that irritation is a nervous excitation of a part which

may or may not give rise to inflammation; that this irritation may be *intermittent*, and this he endeavours to establish as a law of this principle, by the analogy of other diseases. According to him, therefore, local irritation is the ultimate source of all these diseases, and when not complicated with inflammation, may be intermittent. A local cause may exist without exhibiting organic proofs. He admits that these centres of primary disturbance may exist in various parts of the body. "This," says the journalist, "though a much safer theory than that of Brown and Cullen, does not possess much, if any, superiority over the eclectic doctrine, which regards fever as a general disease, often showing determinations to particular organs."

Post-mortem changes in mucous membranes.—Since so great importance has been conferred upon this subject by Broussais, it obviously becomes necessary that we should possess some criterion which shall give precision to our examinations, and enable us to distinguish the *morbid* from the *accidental* and *healthy* variations in the appearance of those membranes. One author says that their healthy complexion is gray, another yellowish, a third red. Messrs. Rigot and Trousseau, of Alfort, have ascertained, that in the horse, whose mucous membrane resembles the human, it was often found of a tincture resembling the lees of wine, more or less vivid, according as the membrane was in contact with alimentary matters, or with mucus. The tincture varied according to the time which elapsed during the examination. A few minutes made all the difference between paleness and redness. The natural healthy colour they ascertained to be a pale yellowish tint; the red colour, arising from the contraction of the arteries, which we know in death force forward the blood into the capillaries and veins. This redness is most obvious in the subjacent or depending parts.

Rasorism, or the doctrine of *contra-stimulants*, which has now much influence in Italy, is thus briefly analysed in the Medico-Chirurgical Journal. M. Rasori was at first a zealous disciple of Brown, whose writings he translated into Italian, with notes. Being, however, convinced by observation, of the superiority of the antiphlogistic method in certain cases, and of the insufficiency of excitablism, he advanced the following principles: first, that the universal stimulant property of every thing on the system, as taught by Brown, is not true, for there are substances that act with a contrary effect, producing effects on the state of excitement, similar to what are produced by the negative means, such as bleeding, purging, &c.; second, these substances (*contra-stimulants*) are to be opposed to stimuli, and when used in excess, to be counteracted by them; third, there is the *stimulant diathesis*, which is to be corrected by contra-stimulants and the *contra-stimulant diathesis*, which it to be remedied by stimulants; fourth, the living fibre bears doses of stimuli according to the prevalence of either diathesis; fifth, that this ability of the fibre to bear stimuli is one of the significant indications of the prevailing diathesis and its degrees, and is more to be trusted than the *symptoms* which are *fallacious* and *uncertain*, often being common to both diatheses. The stimulants are opium, sulphur, æther, alcohol, camphor and ammonia; the contra-stimulants are cicuta, aconitum, belladonna, &c.; digitalis, nux vomica; even bitters and iron, (which are commonly thought to be tonic,) mercury, zinc, antimony, &c. Rasorism rejects the indirect debility of Brown, and so far from regarding 97 of 100 diseases as asthenic, it reverses this statement. The errors of this system are its unnatural division of diseases into only two classes, and its reliance upon equivocal remedies for counteracting morbid excitement, instead of bleeding, purges, &c. So much for Rasorism. We have noticed it thus briefly, that our readers may understand such allusions to it as may hereafter occur.

Pathology and Treatment of Tetanus—This formidable disease continues to be a subject of unsatisfactory inquiry; most fix its seat in the spinal mar-

row; some contend that the ganglia of the sympathetic are its seat, and we have once endeavoured to show that it is as much a disease of the muscular and sanguiferous systems as of either. Tobacco has been recently used in its treatment with effect. The properties of prussic acid have been put in requisition against it. It appears to us that they can be only palliative.

MATERIA MEDICA.

Carbonate of Iron maintains its reputation in the treatment of neuralgic affections. Two cases are reported in the *Lancet*, in which it was successful.

Digitalis has recently been employed with marked success in cases of epilepsy; we presume those in which there was vascular excitement with determination to the head. In one case it was given to a boy nine years of age, who had been rendered almost idiotic by the disease. By the long continued use of tinct. digital. his fits became more mild and less frequent. It was used in another case of a young man of 18, who had hourly attacks of swimings in the head, with violent palpitations, bloated countenance. From being confined almost constantly to his bed, from danger of falling when up, he was cured by pills of 1-4 gr. dig. given once in four hours; we have ourselves recently used it with marked advantage in an alarming epistaxis with cerebral engorgement.

Acetate of Lead as a Sedative in Cancer.—A number of females, affected with incurable and most painful cancers of the rectum or uterus, have had their sufferings greatly mitigated by warm baths, in each of which was dissolved an ounce of acetate of lead.

Emetics.—The value of long continued vomiting, in the treatment of amaurosis, is confirmed by a remarkable case of cure which occurred in the Hospital of Florence.

SURGERY.

Injuries of the Head.—Reaction is taking place in Europe against the *noli-tangere* doctrine, in regard to the treatment of these injuries. Many instances of slight depression of the cranium, although there had been no symptoms of compression, have ultimately produced irritation and inflammation of the meninges. We ought not therefore, in all cases, to withhold the trephine because there are no symptoms of compression. The secondary symptoms which occur after some days, are those of irritation and inflammation, and then the operation is too late.

Secondary Abscesses resulting from Surgical Operations.—In the French Hospitals, the attention of the profession has recently been called to inflammations and suppurations, occurring in parts remote from the seat of disease, following operations or injuries, and produced by them. They occur with astonishing suddenness in the plura, peritoneum, arachnoid, pericardium, after amputations, &c. when there has followed copious or unhealthy suppuration. They also occur in those cases in which a specific poison, as from wounds in dissecting, has produced peculiar action in a part, and ill-conditioned pus. These cases are ascribed to the absorption of peccant secretions in the part, which being conveyed into the circulation, assimilate to themselves some part of the fluids, which are then precipitated upon the parts named above. *Symptoms* are, shivering; followed by fever; sunk features; impeded respiration; pulse small and irregular, but not very quick; tongue moist and not coated; often severe pain in the part primarily diseased. *Treatment.* Bleeding hurtful; purgation salutary; also blisters and other counter-irritants; opium, *pro re nata*; soliciting of suppuration in first disease. Nearly all of these cases, however, are fatal.

Obbliteration of the Aorta has been observed complete by Dr. Monro, of Edinburgh. It was occasioned by a tumour. The patient had evinced no degree of weakness, palsy, or numbness of the limbs, and could walk till within a day or two of his death. This proves that the aorta may be tied in man, without a fatal result from the withholding of blood from the lower extremities.

Diffuse Inflammation of the Cellular Membrane, according to Mr. Earl, of Bartholomew's Hospital, has been heretofore improperly termed *phlegmonous and edematous erysipelas*. It is an acute and rapidly spreading phlogosis of the cellular tissue, terminating in suppuration and sloughing; the whole integuments of an extremity being often involved in one sloughing abscess. We have witnessed the same form of disease, in which large portions of the dead tissue, together with great quantities of dark pus were discharged from beneath the skin, excavating the parts. Mr. Earl, in addition to the usual treatment, recommends in the onset of the disease to incise the parts freely down to the muscles. This is undoubtedly correct.

Operation for relief of Compressed Medulla, occasioned by fracture of the spine.—Mr. Tyrrell, of St. Thomas's, in a case requiring this bold operation, proceeded in the following manner:—The muscles having been dissected from over the vertibræ, and being kept apart by flat hooks, Mr. T. discovered that the inferior articular processes of the 12th dorsal were thrown forwards beyond those of the first lumbar. The arch of the 12th dorsal compressed the spinal marrow; this he removed with great caution, using alternately the Hey's saw and strong curved forceps. No injury was done to the spinal marrow by the operation; but it had previously sustained so much as that the operation availed nothing, and the patient died.

Tapping of the Pericardium has recently been done by Mr. Jowett, of Nottingham, Eng. A small incision having been made with a lancet between the 5th and 6th ribs, exactly half way between the sternal extremity of the 6th rib, and the middle of the ensiform cartilage, a trochar with a guarded canula was thrust through the thoracic parietes. A little air was sucked in by the expansion of the chest when the trochar was withdrawn. No water flowed from this, or from another orifice made in the same manner between the 4th and 5th cartilages, and the operator at first supposed that he had been foiled; but the patient having, on the night following, made two quarts of water, with relief of dyspnœa and œdema, he became convinced that, owing to displacement of the canula, the water had entered the general cavity of the chest. *Nota bene*.—The patient died, and then were found the two punctures in the pericardium, although this membrane, by subsequent inflammation, had become adherent to the heart.

CHEMISTRY.

New Acids.—In the Annals of Chemistry and Nat. Philosophy, for Nov. 1826, there is the following notice:—M. M. Chevreuil and Gay Lussac, in treating animal matter with the alkalis, have obtained a number of acids, remarkable for their property of neutralising bases, in which nitrogen enters as an element. They are engaged in examining these acids, and will publish the result of their labours as soon as they are completed.

Brome.—The new substance called Brome, or Bromine, lately discovered by M. Bolard, in sea waters, still excites considerable attention among the European chemists, but whether it is yet to be considered as an elementary body, analogous to chlorine and iodine, has not been fully determined. From some late experiments of M. Dumas published in Bull. Univ. c. x. it appears that a chloride of iodine possesses all the properties of Bromine.

INTELLIGENCE.

Mr. J. Tognò, of this city, has favored us with the perusal of a few pages translated from the *Pathological Anatomy* of Xavier Bichat. This was the last labor of that lamented anatomist, and although it was not prepared for the press by his own hand, (it having been recorded by one of his pupils, as delivered in his lectures,) nevertheless it has upon it the seal of his genius, which cannot be counterfeited. It will be highly valued by the profession. An interesting biographical memoir by M. Boisseau is prefixed. In relation to the character of the work, he observes, that a sketch from the hand of a Raphaël is not without its value.

The following beautiful allusion to the premature death of Bichat we cannot forbear to quote:—"But Nature, sometimes, seems to take pleasure in putting boundaries to the progress of human intellect, and condemns to premature death the inquisitive minds of those who follow her steps too closely."

We are happy to announce that Mr. Tognò will complete the translation for the press. His critical knowledge of the English and French, and his sufficient acquaintance with medical phraseology, assure us that it will be well done.



JEFFERSON MEDICAL COLLEGE,

PHILADELPHIA.

This Institution, after having surmounted the obstacles which the infancy of similar undertakings must necessarily encounter, is now, by the successful experiment of two courses of lectures, to numerous and respectable classes of pupils, placed upon a footing which must increase the confidence in it, already so liberally expressed by the profession and the public, and greatly extend the sphere of its usefulness. The benefits resulting from the existence of a second College of Medicine, in a city where are annually assembled six hundred pupils, is no longer a subject of conjecture. That this is the conviction of the people of Pennsylvania, has been evinced by the recent Act of Assembly, conferring upon the Institution chartered privileges, in all respects equal to those enjoyed by any other in our country.—Under the same act have been appointed ten Trustees, citizens of Philadelphia, who are to superintend its concerns in such a manner as shall comport with the public good.

Contracts have been made for erecting, before the commencement of the next course of instruction, an elegant and spacious building.

The several demonstrative departments, Chemistry, Botany,

and Anatomy, are abundantly furnished with the necessary apparatus for complete instruction. If the most powerful incentives may be supposed to exert their usual influence, efforts of no ordinary character, on the part of the Professors, will enhance the facilities which are furnished.

Candidates for graduation are required to have attended two full courses of Medical Lectures, one of which must have been in this institution; also, to present certificates of having prosecuted the study of Medicine for three years (including lecture terms) with some respectable practitioner; and, finally, to present a satisfactory Thesis on some medical subject, and to undergo an examination on the several branches of Medical Science.

The fees for admission to all the public lectures amount to \$90. The expenses of graduation are \$15. There is no matriculation fee.

The gentlemen appointed under the Act of Assembly as Trustees are:—

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The next annual course of Lectures will commence at the new Hall, in Tenth-street, near Chesnut, on the Wednesday preceding the first Monday in November next.

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N. R. SMITH, Dean.

The following is a list of all those who have received the honours of the Jefferson Medical College since its organization, and of their inaugural Theses.

GRADUATES OF 1826.

PENNSYLVANIA.

George Baldwin, on Cholera Infantum.
 John Bowen Brinton, on Cholera.
 George Carll, on Anthrax.
 Charles Graeff, on Rheumatism.
 Charles M. Griffiths, on Cholera Infantum.
 Jesse W. Griffiths, on Intermittent Fever.
 Nathan L. Hatfield, on Dysentery.
 William Johnson, on Extra Uterine Pregnancy.
 Thomas B. Maxwell, on Lobelia Inflata.
 Benjamin Shaw, on Medical Practice.
 J. Frederick Stadiger, on Epilepsy.

NEW YORK.

M. L. Knapp, on Apocynum Cannabinum,

NEW JERSEY.

Peter Q. Beekman, on Syphilis.
 Ralph Glover, on Hernia.

KENTUCKY.

Atkinson Pelham, on Mania a Potu.

MASSACHUSETTS.

James Swan, on Scrofula.

VERMONT.

Joel Fester, on Neuroses.

IRELAND.

John Graham, on Epilepsy.

CONNECTICUT.

Benjamin B. Coit, on Tetanus.

SOUTH CAROLINA.

Thomas M. Dick, on Epidemics.

B. RUSH RHEES, *Dean.*

GRADUATES OF 1827.

PENNSYLVANIA.

Abraham Bitner, on Typhus.
 John Cunningham, on Fever.
 Alexander C Donaldson, on Burns.
 Samuel Endress, on Hepatitis.
 Fredrick W. Herbst, on Croup.
 Patrick Kelly, on Venous Absorption.
 Isaac Kline, on Intermittent Fever.
 Charles A. Luzenburg, on Scrofula.
 Thomas J. M'Camant, on Uterine Hemorrhage.
 William M'Cleery, on Injuries of the Head.
 G. Washington Mears, on Cimicifuga.
 George R. Morton, on Bilious Remittent.
 John S. Murdoch, on Cold.
 Peter Shannon, on Gonorrhœa.
 Jacob Sherer, on Dyspepsia.
 Jacob G. Shock, on Secale Cornutum.
 Jeremiah B. Stubbs, on Dysentery.
 Lewis P. Thompson, on Cholera.
 Isaac C. Weidler, on Scarlatina.
 Robert Wray, on Dysentery.

NEW YORK.

Anson Jones, on Ophthalmia.
 Frederick A. Waldo, on Fractures of the Cranium.

NEW JERSEY.

Randolph Shotwell, on Intermittent Fever.
 Edmund L. B. Wales, on Remittent Fever and
 Dysentery.

VERMONT.

Samuel S. Fitch, on Nervous Influence.

CONNECTICUT.

Russel B. Hubbard, on Worms.
 John W. Russell, on Counter-irritants.

MISSISSIPPI.

John P. M'Intosh, on Dyspepsia.

DELAWARE.

Edward C. Dingle, on Uterine Hemorrhage.
 John Kinsey, on Intermittent Fever.

OHIO.

Isaac B. Carpenter, on Digitalis.

VIRGINIA.

Patrick Cullen, on Mania a Potu.

MAINE.

David Hale, on Hepatitis.

RHODE ISLAND.

Benjamin Nichols, on Punctured Wounds.

N. R. SMITH, *Dean.*

TO SUBSCRIBERS.

We would have it distinctly understood by our patrons, that the price of this Journal is three dollars annually, if paid in advance, or by the delivery of the third number, and *four* if longer delayed. We shall endeavour to dispense, as far as possible, with agencies, and communicate directly with our subscribers, by mail.

This will not actually enhance the expense of the work, as, had we commissioned numerous agents, we should have been compelled to increase its price. Parcels, however, will be sent to the principal cities free of expense. The postage, to the most remote parts of the U. S. cannot, by law, exceed one dollar a year. By this mode of distribution our numbers will be punctually received, and will rarely miscarry.

We shall enclose many of our numbers to those who are not subscribers, hoping that they will approve of its design. Those who desire its continuance will please direct to the Editor, (N. R. Smith, M. D. Philadelphia, Spruce Street, No. 141,) to whom all communications are to be addressed, always *post-paid*.

Perhaps, as three dollars is not so convenient a sum to transmit, some of our subscribers will prefer to enclose five, in which case the editor is pledged for its continuance for a corresponding time.

THE
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VOL. I.

JULY, 1827.

No. II.

ESSAYS.

ART. I.—*Remarks on the Influence exerted by the Exercise of the Intellectual Faculties on the Organization of the Brain.* By the Editor.

IN what we offer upon this interesting topic, we by no means throw down our gage to do battle, “in all love and honour,” for the entire system of Phrenology; nor do we identify our proposition with any one of the fundamental principles of that science. We ask nothing of it but some of those true things which a venerable German naturalist pronounced to be not new, whilst we avoid those new things which are doubted to be true.

The queries that we propose to ourselves are the following:

1st. Is the brain an organ necessary to the exercise of intellect? and does the degree of excellence in its organization correspond, as in other organs, to the degree of excellence in its function, or in other words, to the degree of intellectual power?

2d. Is this organ, like others in the animal economy, rendered relatively more perfect in its structure and development, by the exercise of its function?

3d. Is the perfection thus acquired by cultivation in any degree transmitted to the progeny of the individual, as other corporeal changes, the result of physical causes, are observed to be?

Should we succeed in affirming these interrogatory propositions—

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tions, it is obvious that there must follow a series of corollaries, relative to the culture and development of the human mind, which no one who loves to contemplate the rising dignity of human nature can regard with indifference.

That the brain, at least as an instrument or medium of action, is necessary to the operations of intellect, may, in the present state of our knowledge, be almost regarded as an axiom in Physiology and Ethics. That we may take even the most sceptical with us, however, we advert to a few facts:*

We cannot, indeed, determine the function of the brain with that precision with which we ascertain the functions of those organs, the *nature* of whose office is more appreciable. But although we cannot expose it in the very exercise of its office, as can be done in regard to the heart, the stomach, the lungs, &c. we have other means sufficient for the purpose of arriving at the truth. The brain is an organ which is observed to vary exceedingly in the different classes of animals. In some it exhibits a mere rudiment of that, which, in others, predominates over every other organ in the system. That function, then, which uniformly varies in a corresponding degree, must be the peculiar office of this organ. The same mode of reasoning would be amply adequate to determine the function to which every important organ is essential, did we not possess means more direct. Thus we might determine the office of the lungs to be relative to the change of black into florid blood, by noting the absence of an equal change in those animals which have but an imperfect organ. Now, those animal phenomena, which vary in precise proportion to the configuration and development of the brain, are the operations of the intellect—sagacity, or whatever this principle, by which we contemplate our relations with surrounding objects, may be termed.

To avoid perplexity, we must here distinguish between instinct and intellect. *Instinct*, according to Broussais, is not a

* We would not be understood to assert the materiality of the mind. We believe in an immaterial and immortal principle, which, in its connection with matter, however, manifests itself only through the instrumentality of organs.

principle located in the brain, but in the viscera, and consists in wants which are there felt, and which prompt the animal to certain acts for their gratification. Intellect is a more exalted faculty, which, with a degree of independence, is conscious of, and contemplates, the relations existing through the medium of the senses, between our internal wants and external objects. Instinct is equally strong in all animals, though controlled in some by intellect, which varies remarkably. Instinct is incapable of education, but intellect is almost susceptible of a new creation.

By the most extensive and accurate observation it has been ascertained, that the phenomena which constitute intellect are those which uniformly correspond in degree to the relative development and organization of the brain. Those which approach nearest to man, in this ennobling attribute, are uniformly found to resemble him most nearly in the configuration of the head, and the relative perfection of the brain. Some apparent exceptions there are, indeed, and must necessarily be, because we are not acquainted with the minute structure of this organ, and consequently cannot appreciate differences dependent upon it. These exceptions, however, are fewer, if the relative proportion of the brain to the nervous system be taken into account, for it is the predominance of the former over the latter that is to be compared in different animals.

In almost every instance the character for intellect or sagacity, which the observation of mankind has conferred upon different animals, exactly corresponds to that which the comparative anatomist would assign to them. Those which are proverbial for fidelity, tractability, &c. and which man has associated with himself, and in a degree humanized, are invariably those which the physiologist, who regarded nothing but the brain, would have indicated, as susceptible of this moral cultivation. On the other hand, those which have been always stigmatized as dull and insusceptible, are uniformly those which possess an imperfect cerebral organ. Trace the whole series of animal creation, from the lowest reptile up to man, and you will find the scale of intellectual gradation written upon the cerebral organs.

But this is true not only in regard to animals as compared

with man—we assert it, with equal confidence, of the different varieties of the human family, as compared with each other. From the earliest ages history has assigned to different races different degrees of intellectual capacity. This we might think the result of caprice, or national prejudice, did not the naturalist arrive at precisely the same conclusions by a different mode of reasoning. The observations of the historian and the naturalist reciprocally confirm each other. Political writers regard this diversity of intellect as a moral axiom, and with the anatomist it is a physical one.

No one will deny that the negro variety, from some cause or other, is, and ever has been, the lowest of the human family; we also ascertain in the most satisfactory manner, that, in them, the brain is less perfectly developed. This coincidence, say our opponents, may be accidental. But what is the physical character of those (the Malay variety) whose moral power has asserted for them the next rank in the scale of humanity?—they are next, also, in regard to cerebral organization. What are the physical traits of the most exalted of our species—the European variety? they are also remarkably the most perfect in regard to the development of the brain. Indeed, the degree of relative power and influence belonging to each race (and with man intellect is power) is found, in all the five varieties of the human species, to correspond, with precision, to the degree of development in the brain. It is obviously impossible that these numerous coincidences should be fortuitous; especially if we call to mind the similar relations which we have pointed out in other classes of animals.

But individuals of the same variety are observed to differ in native moral and intellectual endowments. Are they characterized by corresponding physical differences? We would by no means place a fool's-cap upon every diminutive head, nor a mitre upon that which would best fill it; were we to do so, the pictures of the great would in some instances silently reproach us. A small brain may be more perfectly organized than another, or it may be rendered more vigorous by proper exercise, and be made to predominate, in vital energy, over other organs. But other things being equal, we maintain, and observation will confirm

it, that superiority of intellect is associated with a voluminous brain. At all events, without any hypothesis to support, this has been the prejudice of mankind from the earliest times to the present. From ancient statuary we learn that the idea of mental excellence has always been associated with that of an expanded front, which is always a measure of the volume of the brain. There is no feature which confers so much dignity of expression upon the human countenance as a lofty forehead. When we look upon the beetling front which the ancients have given to the head of Jupiter, we are struck with awe, and feel as if in the presence of a divinity.

Now it is obvious, that we either have an intuitive perception of something exalted in this feature, or the effect is owing to our having often observed superiority of intellect to be connected with it, and to the unconscious association which results.—In either case we have strong assurance that it is a true index.

The effects which result from disease furnish us with valuable criteria, by which to determine the functions that in other organs are obscure. What animal phenomena are suspended, or impaired, when the brain is injured or diseased? Almost invariably those of the mind. Phrenzy is the most infallible diagnostic of inflammation of the brain, and hence the term phrenitis. In apoplexy, there occurs an instantaneous annihilation of perception and reflection. When by a blow upon the head of the cranium is so depressed as to interfere with the organ, sense and motion are instantly lost. It is true, indeed, that the integrity of the brain is sometimes impaired without a corresponding lesion of the function which we ascribe to it, but the same is more remarkably true with regard to other organs, the functions of which are ascertained. Organic disease is often detected where no disturbance of function had indicated its presence. Respiration is sometimes performed sufficiently well by a single lung.

That intellect is the office which the cerebrum subserves has, moreover, been made the subject of direct experiment by M. Flourens. He ascertained “that in many warm-blooded ani-

mals, wounds of the cerebral hemispheres cause drowsiness, coma, loss of memory and attention, in a word, of intelligence.”*

Sometimes, also, there is alienation of mind where no corresponding organic derangement is discoverable; and it is because, not knowing the minute structure of the organ, we cannot appreciate its primary changes.

We would now pursue the second inquiry which we proposed, namely:—Is this organ, like others in the animal œconomy, rendered relatively predominant by increased exercise of its function?

In the discussion of this question we are, indeed, compelled to rely chiefly on analogy, because the physical changes of this organ are by no means so demonstrable as those of others. But if it be a law of the animal œconomy that an organ is more fully developed and perfected by a certain degree of exercise, and if, as we have shown, the brain be the instrument of thought, then will the exercise of the thinking faculties perfect the brain.

It appears to us, then, that our task is easy, for who will deny that the muscles of the labourer are rendered more voluminous by their constant exercise. Porters, blacksmiths, &c. who exercise the arms especially, have twice the muscular volume and power which those organs possess in literary men. If, of two individuals of the same family, precisely resembling each other in physical constitution, the one engage in a laborious occupation and the other in literary pursuits, the whole contour of their bodies will be made to differ.

Whenever any morbid cause compels an organ to exert itself preternaturally in the performance of its office, that organ almost always becomes hypertrophied, or increased beyond its usual dimensions. This is remarkably the case with the heart, whenever there exists any obstruction to the circulation of the blood, its walls then becoming thickened, and its muscular power doubled.

Whatever cause, then, calls into more than ordinary exercise

* Broussais' Physiology.

the cerebral organs, must, by the same law of nature, accommodate their volume and organization in some degree to the demand for increased energy of action.

Although we cannot appeal to observation as proof, in relation to this subject, yet I think it to be the impression of most observers that the head of a scholar, as well as the expression of his face, strikingly differs from that of the physical man. One thing, at least, is certain, that the intellectual powers are greatly increased by exercise, and this is always one of the ends of judicious education. Those persons, also, indicate the greatest degree of intellectual superiority whose mental faculties are cultivated at an early period of life, when the organs are forming, and when their relative volume is more capable of being influenced.

We now enter upon the consideration of our *third* interrogatory.—Is the organic excellence, and consequently mental, acquired by the exercise of the intellectual faculties, in any degree transmitted to the progeny of the individual?

We are aware that we are now upon more debateable ground; and, indeed, the unsettled state of this last question is the very circumstance which has induced us to premise the discussion of the foregoing, as introductory to this inquiry.

As in the investigation of the second proposition, observation is here not to be alone relied upon; it would become necessary in that case to estimate so many facts, both for and against, that the mind would be incapable of comparing them and drawing the correct inference.

Let us first ascertain what analogy may furnish us on this subject.—I hold that all physical peculiarities, impressed upon an individual, are equally hereditary, whether they are produced by climate, peculiarities of diet, of occupation, or other cause, provided each operates with sufficient constancy, and during a sufficient number of generations. That many peculiarities of structure are thus transmitted is abundantly substantiated by facts of which the reader will need only to be reminded.

In frigid climates, where the human body is neither cherished by necessary warmth, nor by nourishing aliment, a few genera-

tions reduce it to dwarfish stature, and physical imbecility; as witness the Laplanders, Esquimaux, &c. National peculiarities in the development of the body and its configuration are, indeed, observable in every part of the world, where there exist corresponding peculiarities of climate, food, occupation, dress, &c. How surprisingly does the American or the English yeoman, who cultivates all his physical energies, both by exercise and diet, differ in person from the corresponding class in eastern nations, whose habits of abstinence and indolence check the development of those qualities. Indeed there is no people on the face of the earth who boast any degree of antiquity, and who are at all insulated, either by customs, religion, or physical boundaries, who have not peculiarities of person corresponding to these circumstances. They have been accounted accidental varieties, but certainly we cannot but regard these deviations as the result of an invariable law of nature, when we observe that they uniformly so modify the body as to suit it to existing circumstances.

It may be asserted that the effects of those causes only will be thus increased from one generation to another which are natural, and operate uninterruptedly upon every individual of a people, as, for instance, the influence of peculiar climate. We have evidence, however, that those which are factitious produce the same results. In those countries where society is constituted of casts which have been long distinct, we distinguish a plebeian and a patrician form of the body.

In England, the laboring classes, who have so long been distinct from the nobility, and whose circumstances require the development of the physical powers, are in their persons another race. This is not the effect of a cause which operates merely upon one generation. The children of the yeomanry, as every one has observed, exhibit, even during the first months, a ruddiness and physical vigour, which they could only have inherited.

As analagous to the above, we may also adduce the remarkable changes which the above causes effect in the bodies of other animals.

Of some species there are as many varieties as there are

peculiarities of climate, and many of these differences are obviously such as nature has effected for the purpose of fitting them for existing circumstances; they cannot, therefore, be fortuitous, but must result from the influence of a necessity which nature causes to be felt, and which requires many generations to complete the change.

Swine which have been transported to some of the West India islands, since their discovery, have assumed the aspect of a different animal, becoming much taller, of a uniform colour, and instead of the cloven hoof acquiring the undivided one.

We know, also, that many animals which man has domesticated, continue from one generation to another to lose those physical qualities with which nature endowed them in their wild state, and which were then necessary to their existence. This is very observable in the turkey, a bird which has not been long reclaimed, but which, in its domestic state, by no means possesses the stateliness of form and vigour of wing which it exhibits in its native forests. The same is true of the goose.

What is still more pertinent to our subject, is the fact, that the instincts with which nature has furnished many animals, deteriorate in their domestic state, when there is no longer necessity for the same exercise of those faculties, either for the preservation of life or the procuring of food. When the eggs of the wild turkey are hatched beneath the domesticated bird, the chickens will embrace the first opportunity of escaping into their native woods; if, however, they are kept for a time, they become habituated to their unnatural life, and their progeny will exhibit in a degree the form and propensities of the domestic animal.

We find, also, that we can, by cultivation, through a series of generations, greatly improve the useful qualities of many animals. The fleetest horses are the progeny of those which have been trained to the course, and in which this faculty has been improved to the utmost, by whatever is capable of influencing it, as a particular kind of exercise, diet, &c.

It is not probable that nature ever designed a variety of this animal for the draught, but rather that the prodigious strength and form fitted to the collar, which a variety of these animals

possess, was obtained by always breeding from those which, by the exercise of those qualities, had acquired them in the highest degree.

There is one exceedingly interesting fact, however, which directly proves that man has the power, by art, to impress a character upon the human body which shall be transmitted to subsequent generations. Hippocrates in his writings speaks of a race of people denominated, from the length of their heads, *Macrocephali*. They had among them a prejudice that a long head was associated with intrepidity. In consequence of this, they bandaged the heads of their children in such a manner as to mould them into the envied shape. After a time long heads fell into disrepute, but it proved not an easy matter to change the fashion of them, for it had become a national peculiarity, and they remained for many generations *Macrocephali*, their heads being prodigiously long and unlike those of any other people.

(*To be Continued.*)

ART. II.—*Observations on the Pathology and Treatment of Necrosis.* By NATHAN SMITH, M. D. Professor of Surgery in Yale College.

(*Concluded from page 19.*)

Treatment.—I have already, I believe, hinted that it very rarely happens that this kind of inflammation terminates by resolution under the ordinary treatment. Though I have seen a very great number of cases of necrosis in their progress, yet the number of cases which have fallen under my care, in the first instance, has been small; almost all the cases of which I have had the management have been under treatment for a longer or shorter time before I have been consulted; so that I have drawn my inferences as to the effects of the different modes of treatment employed in this stage from what I have known to have been done by others, rather than from what I have myself done.

The treatment first resorted to has been, in some cases, bleeding; and in all, cathartics. Sometimes emetics have been tried. The topical applications have been blisters, evaporating lo-

tions and cataplasms. In some cases all these remedies have been employed before I have seen the patient. But I do not recollect a single case in which I had reason to believe that the inflammation was seated in, or on, the bone that has not terminated in suppuration. One I recollect in which I saw the patient on the third day after the attack, when I bled as freely as I dared to do, and kept the part constantly covered with cloths, wet with cold water, besides giving cooling cathartics; but suppuration, nevertheless, took place.

The following case will serve to illustrate the pathology of the disease, and the mode of treatment I shall recommend. It occurred in 1798. The patient, a colored girl, nine years old. The attack was on the femur, and had been of sometime standing before I saw it. There was a large collection of matter in the thigh, which extended from a small distance above the knee to near the trochanter. An incision was made on the outside of the thigh, commencing near the knee joint, and extending upwards eight inches in length. A large quantity of matter was discharged, and on examining with the finger, the bone was found denuded of its periosteum, from two or three inches above the articulation of the knee upwards two-thirds of its length; and near the lower end the whole circumference of the bone was stripped of its periosteum, excepting the *linea aspera*, which formed a kind of septum between that part of the matter deposited on the inside of the bone, and that on the outside.— But on the anterior surface of the bone there was a free communication, so that I could pass my finger over the bone, and turn it down to the *linea aspera*, where the muscles, tendons, &c. still adhered to the bone. At this time I had but little knowledge of the disease, and no book which I had seen rendered me much assistance. Benjamin Bell, in his *Treatise on Ulcers*, directs, in such cases, to perforate the bone down to the living parts, in order to produce exfoliation. This I had tried in several cases, but with no good effect. In this case, as the bone, to some extent, was exposed to the sight, I concluded to wait a few days, and see if granulations would appear on the denu-

ded bone. But in a few days the bone which was exposed to the sight began to assume a darker colour. I then determined to remove a portion of it, in such a manner as to go through the dead part, let that be more or less. For this purpose I used the round saw employed in operating on the scull, applying it to the outside of the femur, about in the centre of the denuded part, and sawed through the walls of the bone down to the medullary substance, and then removed the piece circumscribed by the saw, which exposed to view a portion of the medullary substance, in extent equal to the diameter of the saw.

On sponging out the blood, the medullary substance appeared healthy, and was firm to the touch, but on looking attentively at it I perceived purulent matter issuing, by pulsations, from beneath the sawed edges of the bone, and between the bone and medullary substance. I repeatedly wiped it away, and it continued to gradually issue. The walls of the bone being fixed, the matter was not forced out by their collapse, as it is in the soft parts; but as there is an increase in the quantity of blood in the medullary substance, at each systole of the arteries, this substance is enlarged, and of course the matter is pressed out.

After the operation of sawing the bone, the wound was treated with the simplest dressings. In a few days after this, the bone, which was of a pearly white, a little verging to brown, where exposed to the external air, changed its appearance, assuming a carmine colour, and finally recovered, with no other loss of substance than a thin scale, which separated from the surface of that portion which had been touched by the saw, the whole of which did not exceed ten grains.

This case established in my mind the pathology of the disease and the proper mode of treating it; that is, when the disease has advanced so far as to form matter. But it would be a desirable thing to prevent the formation of matter in such cases, if possible. I have already stated that, in the common mode of treatment, this is rarely effected. I did not, however, intend to be understood that this is impossible, or that there is no other mode of treatment that might be adopted, which, if seasonably

employed, might arrest the progress of the disease, prevent the collection of matter, and, of course, preserve the bone from injury, or the necessity of making a breach in the bony structure.

As the disease passes through several different stages, which require different modes of treatment, the practice must vary accordingly. If the surgeon has the good fortune to be called on the first attack of pain, supposing the disease to be in one of the long bones of the limbs, as soon as the disease, by swelling and tenderness of the part, has sufficiently marked the seat of the inflammation, an incision should be made, in a longitudinal direction, through all the soft parts down to the bone, and through the periosteum. The extent of the incision should be equal to the extent of the inflammation. Since I have adopted my present opinions of necrosis, I have not been fortunate enough to be called in till matter has been formed, and therefore have not had it in my power to test this mode of treatment, but have communicated my views on the subject to those who have had opportunities of applying them to practice, and in every case that I have heard from, the incision has arrested the further progress of the disease, and the case has been reduced to the state of a simple incised wound, which has soon healed, without any injury to the bone. This effects a very great saving of time, pain and confinement to the patient.

Necrosis, on the larger limbs, is somewhat analogous to the felon on the finger, where the parts beneath the strong fascia of the part are inflamed. In both cases a fibrous membrane is concerned, and, as in felon, an incision carried through the fibrous membrane to the extent of the inflammation, stops the further progress of the disease—so, in necrosis, when the soft parts, with the periosteum, are divided, the disease is cured. The treatment, after the incision, both general and topical, should be such as we recommend in cases of simple incised wounds, attended with considerable inflammation; excepting that we should not try to approximate the edges of the incision by adhesive plasters, but dress them with simple applications, such as lint, spread with simple cerate, and evaporating lotions applied to a considerable portion of the limb, at least as far as the inflammation has

extended. The general treatment consists in cooling purgatives, nauseating doses of antimony, and opium sufficient to allay irritation and procure rest.

When the disease happens to be seated on the spongy bones, as the os calcis, metatarsal bones, &c. the incision should be made in the direction of the muscles, tendons, arteries, &c. which may pass over it, so as to avoid wounding these organs. In other respects these cases are to be treated in a similar manner, as the above.

When the disease affects a bone thinly covered with soft parts, as the anterior part of the tibia, lower part of the fibula, or the humerus, clavicle, ribs, &c. surgeons at this day would not hesitate to make the proper incision. But when the femur is the bone affected it will be otherwise. The precise part affected is not so easily detected, and probably few practitioners would venture to make so bold an incision under such circumstances. But when the seat of the disease can be clearly ascertained, the propriety of making such an incision cannot be doubted; and when we consider that the pain and confinement consequent to an incised wound of almost any extent, is so trifling, compared with the evils attendant on a long protracted case of necrosis in this bone, it should render us bold in directing the incision.

The second stage of this disease, when the matter has formed between the periosteum and the bone, still admits of a cure without any loss of bone. If, in this stage of the disease, an incision is made through the soft parts, and the periosteum be divided as far as it is separated from the bone, and a portion of the bone be cut out with a saw, or several perforations be made in the bone which has been denuded, down to the medullary substance, so as to allow the matter collected between that substance and the walls of the bone to escape, the necrosis or death of the bone will be prevented. By this mode of treatment I have succeeded perfectly in arresting the further progress of the disease in the bone, and the patient has recovered without loss of any portion of it. If this mode of treatment be put in practice early enough and the perforations be made in the bone sufficient to afford a free exit to the matter, it will always succeed. The

best instrument for perforating the bone is a small trephine that cuts out a piece about the size of a nine-penny-bit; but I have often succeeded by making a number of perforations through the denuded portion of bone, with the perforator used in trepanning. When this instrument is used, there should be several perforations made, more or less, according to the extent of the denuded portion of bone, and the instrument should be carried a little into the medullary substance, otherwise the aperture will be too small to admit the matter to pass freely. After this operation has been performed, the case is to be treated as we have directed, where the incision has been made before matter had been formed, that is, in the simplest manner.

In the third stage of this disease, the matter has made its escape through the periosteum, and obtained a lodgment in the soft parts, with more or less tumefaction of the part, and a perceptible fluctuation. The treatment, in this stage, is precisely the same as in the second stage, but the favourable result is not so certain, as a portion of the bone may have been deprived of its circulation too long, or may be perfectly dead, and the separation between the living and dead bone may have commenced. In that case, the operation cannot save the bone entire; a portion must necessarily be cast off. Nevertheless, the incision should be made through the whole length of the collection, taking care not to divide any important parts, such as tendons or large arteries. The bone should then be perforated and a portion sawed out, so as to give free vent to the matter contained within it, and the wound treated as after the operation performed during the two first stages.

I would advise a free incision, with a view to the subsequent treatment of the case; for if a large portion of bone should be detached, it affords a better opportunity for its removal.

As we cannot always be certain whether the bone may, or may not, be in a recoverable state, the operation, though late, may prevent the destruction of any portion of it, as I have several times had an opportunity of witnessing, and when I had not expected such a result, on account of the length of time which had elapsed before it was performed. If a portion of bone should

be cast off, the perforation will enable the operator, if it should require an operation for its removal, to break it the more easily, which is often a necessary part of the operation in removing a large sequestra. The operation of sawing and perforating the bone gives no other pain to the patient than what arises from pressure of the instrument on the limb, which need not be considerable. After the operation has been performed, in either stage of the disease, nothing more can be attempted, and no instrument, not even a probe, should be thrust into the wound. If the collection of matter in the soft parts has been great, and the discharge continues to be copious, the patient should take bark freely, and should be supported by as nutritious a diet as the stomach will bear.

In some cases, in which the discharge has been very copious, I have checked it by throwing in a solution of corrosive sublimate, of the strength of x grains to a pint of water, to be repeated once in four or five days, and when the matter has been very offensive, a weak solution of carbonate of potash, thrown into the sore with a syringe, from time to time, removes the offensive odour.

As it will often happen, either from nothing having been attempted to prevent the death of a portion of the bone, or from the necessary operation having been delayed too long, a portion of bone, of greater or less dimensions, loses its vitality, and becomes a foreign body, surrounded by the living parts. When this happens, if the portion of dead bone is of any considerable size, there will be a discharge of matter kept up as long as the sequestra remains.

The object of the surgeon, then, is to remove the sequestra. The first question is whether we shall attempt to remove the sequestra by an operation, or leave it to the unassisted efforts of nature, and the decision must be determined by contingent circumstances, like every thing else relating to our art.

If the portion of dead bone is small, and but a trifling discharge of matter be kept up by it;—and if it is so situated that it does not give much pain, nor impede the use of the limb,—and especially, if it is situated near the surface, it may

be left to the operations of nature, till it appears to be coming away, when its removal may be facilitated with the fingers or forceps.

But where the portion of dead bone is large,—a considerable discharge kept up by it, and especially when it deprives the patient of the use of the limb, an operation, undertaken for the purpose of removing it, is generally to be preferred, and the first question to be settled in such a case, is, at what time shall the operation be performed?

When the disease has not extended over the whole circumference of the bone, that is, when only a portion of one side of the bone is affected, the dead portion may be removed, if the operation be thought necessary, at any time after the dead bone is detached, which is generally in no very great length of time. This can be ascertained by the sound it gives on rapping it with a probe, or any other instrument, and more certainly by pressing directly upon it with the end of the probe, for sometimes we can perceive that the sequestra is moved by the pressure. When this cannot be perceived, if, when you fix the end of the probe directly on the dead portion of bone, you make considerable pressure upon it, and the patient complains of pain, you may be certain that the bone is detached, as such pressure will otherwise cause no sensation, for they are granulations which have started from the edges of the living bone that are hurt by the pressure. In such cases the dead bone had better be removed early, otherwise a new bony structure will be formed over the sequestra, which may make it necessary to remove some portion of the former with the saw, which would be avoided by a timely operation.

But when the whole cylinder of the bone has been destroyed, that is, when the sequestra consists of the whole bone for a certain portion of its length, the operation must be deferred till the new bony structure has formed round the sequestra. This is necessary to preserve the length and shape of the limb, for if the operation should be performed before this process is perfected, the member would be reduced to the state of a broken limb, with a deficiency of bone between the two ends of the liv-

ing bone, the limb would undoubtedly be shortened; and it is not quite certain that the bone would form in such a manner as to support the body.

It is not difficult to ascertain whether the new bone has formed round the sequestra or not. When this has taken place, there is considerable enlargement of the limb at that part of it, and it feels hard, as though the bone were much larger than *natural*, which is really the case, and if a probe is inserted into the opening, through which the matter issues, the dead bone will be felt, and around the edges of such opening the new bone also, though not yet firm and solid, and the probe may often be inserted between the new bony covering and the dead bone. *Under these circumstances, the sooner the operation is performed the better.*

Respecting the operation, the cases which occur are so peculiar, and require such different methods, that nothing more than general directions can be given. The object, however, in every case is the same; that is, to remove a piece of dead bone, which has become a foreign body as it relates to the living.

The instruments which may be wanted in this operation are a probe, knife, round saw, and one or more of Hey's saws, several pair of strong forceps, and a pair of cutting forceps. The elevator used in trepanning the skull is also an instrument which is often required in such operations. When we undertake this operation, we should be provided with all the instruments named, as we cannot always foresee at the commencement of the operation, what instruments we shall need before it is finished.

In some cases, where only a small portion of bone is detached, it may be removed with the common dressing forceps.—But in a case where any considerable portion of bone is to be removed, it will be necessary to make an incision in the soft parts to some extent. The length of the incision required will depend on the length of the sequestra to be removed, which may be estimated by the length of the enlargement of the limb, or diseased part. But, as the sequestra is always shorter than the new-formed bone, it will not be necessary to extend the incision the whole length of the enlargement; besides, if the first incision should be found insufficient to give us free access to the bone, we can enlarge it at any stage of the operation.

The better mode of procedure is—first, to insert a probe into one of the principal openings, through which the matter issues, or if there is more than one, to insert the probe into that which presents the fairest opportunity to reach the sequestra by an operation, and then to introduce the knife, and carry it upwards as far as may be thought necessary, and if the sequestra extend below the probe, commence another incision from it, downwards, as far as may be deemed proper. The incision should be carried down to the sequestra, if there is no new-formed bone intervening, and if there should be, as is commonly the case, the incision should be carried down to it. It sometimes happens that, though the new bone has formed and partly enclosed the sequestra, yet we find a sufficient space open, or covered only with soft parts, through which we may extract the sequestra; and in order to effect this without sawing away the new formed bone, it is often necessary to saw, break, or cut, the sequestra into two pieces, for it is often covered by the new bone to some extent, at each end, so that, by cutting it in two pieces, we can withdraw each through a small opening.

I would observe that, in making the incision through the soft parts, we should avoid wounding any artery of considerable size, and especially any tendon. We cannot always avoid wounding the muscles, but if they are divided in the direction of their fibres, no serious evil arises.

The treatment of the wound, after the operation, should be perfectly simple, and similar to the treatment of a simple wound.

When I first began to perform operations of this kind, I was under apprehension lest so much bruising and handling of the soft parts, as is sometimes necessary, to dislodge a large sequestra unfavorably situated, might be followed with bad consequences, and some of these operations have been the most laborious and tedious, both to myself and the patient, which I have ever performed, yet I have never known any untoward circumstances to follow such operations, of which I have performed a great many.

If the whole of the sequestra is removed, the cure will be perfect; but if any portion of it is left, it will keep up a discharge, somewhat in proportion to the quantity of dead bone left in the limb,

ADVERSARIA.

ART. I.—*Report of Experiments recently performed at the Jefferson Medical Hall, relative to Venous Absorption from the Cavity of the Stomach.*

DR. C. LUZENBURG, assistant in the department of Practical Anatomy, had been engaged in performing experiments, at the suggestion of Professor Rhees, for the purpose of determining the influence of the nerves on the function of absorption generally.

For this purpose, both extremities of the stomach were included in ligatures, together with the nerves which the organ receives from the eighth pair, and from the solar plexus. The prussiate of potash was, under these circumstances, abundantly absorbed and detected in various parts of the system.

I then suggested to Dr. L. the following experiments, for the purpose of determining the comparative importance of the veins and the lymphatics, in regard to the function of absorption from the cavity of the stomach.

The animals employed were cats. The abdomen was opened, and the pyloric and cordiac extremities of the stomach were included in ligatures and divided. The peritoneum was then dissected away from around the coronary artery of the organ, and also from around the principal vein. All the peritoneal attachments were then removed, so that the organ retained no other connexion with the system than through the medium of one artery and one vein. By these the circulation was observed still to be kept up. Such vessels as bled on being divided were secured by ligatures.

The prussiate of potash, in solution, was then, by a tube, carefully conveyed into the stomach, so as to suffer none to fall into the cavity of the abdomen. The incision was finally closed by

sutures, and the animal was suffered to live two and a-half hours. On its being killed at the end of this time, the following interesting phenomena were manifested:—

On applying the tincture of the muriate of iron to the blood of the vena portæ, it immediately assumed a strong blue colour. On applying it to slices of the liver, remarkable blue patches were instantly obvious. The same occurred when it was applied to the heart. It was most striking, however, in the interior of the kidneys. When these organs were divided, and their surfaces touched with the tincture, they instantly became intensely blue, as if covered with a thick pigment. When the external surface of the stomach was dashed with the tincture, it exhibited very little of the blue tint, a decided proof that the solution of the prussiate had not transuded through the stomach.

The above experiment was four times repeated. Three times it was done by Dr. Luzenburg, and once by Mr. Mailliard, and always with the same remarkable results.

With a view to determining the comparative activity of the lymphatic absorbents, I then requested the above gentlemen to perform the following:—

The principal arteries first, and then the principal veins going to the stomach, were secured by ligatures, so that the sanguineous circulation was feebly carried on by the small vessels remaining. The prussiate was then introduced as before, and the animal having been suffered to live the same length of time, was killed. The most careful application of the test, however, could no where detect the prussiate, except in the strangulated veins of the stomach, where it was found in obvious quantity, they being much distended with blood. This experiment was repeated by both Dr. Luzenburg and Mr. Mailliard, and with results perfectly uniform.

It might be objected to the last experiment, that the tying of all the principal blood-vessels of an organ should so impair its organic functions that no absorption could be expected to take place; but this objection is at once obviated by the fact, that the substance had entered the veins and passed as far as the liga-

tures; certainly, then, this function should not have been interrupted in the lymphatics, had it existed in them before the experiment.

The first series of experiments is similar to those performed by Majendie, Gmelin and Tiedemann, and analogous to some performed in this city by Messrs. Lawrence and Coates. They are interesting, however, as confirming, in the most satisfactory manner, their results, which by some are still doubted as being conclusive. The second is, I believe, unique, and in my mind, renders it quite certain that, whatever may be the office of the lymphatics in the textures of the organ, absorption from the cavity of the stomach is exclusively effected by the veins, and that it is very *copiously* effected by them. Probably the same is true with regard to the intestinal canal.

The experiments were witnessed by several of my pupils, and will, I am confident, be amply confirmed by all who are disposed to repeat them.

The inferences which are to be drawn from these facts are certainly not a little interesting, in relation to the function of digestion. If substances foreign to the animal tissues, and which cannot be assimilated, are thus abundantly taken up and conveyed into the circulation, is it not absolutely certain that all soluble or fluid alimentary substances are absorbed with even greater avidity? A very large proportion of our aliment, perhaps a moiety, is either fluid or soluble in water, and when taken into the stomach, needs not to be acted upon by the gastric juice, or any other agent, to qualify it for venous absorption.

We very well know that the fluid parts of meat are highly charged with sapid and nutrient principles. These are expressed by mastication in great quantity; and if the prussiate of potash be absorbed by the veins of the stomach, certainly we may be assured that they are drunk up by the same organs. This is the more credible, when we recollect that the sensation of renewed vigour and strength is felt almost immediately after taking food.—Sugar is another substance highly nutrient, and complete-

ly soluble in water. It is capable of sustaining life for a very considerable time, uncombined with any other article. The fattening of the southern negroes on the saccharine juices of the cane stalks is well known. I think it must be admitted that at least a very considerable portion of this substance is absorbed by the veins of the stomach.

The same may be said of mucilages, extractive matters, and perhaps oils. It will be recollected that Haller detected the latter in the blood of the *vena portæ*.

The aliment of some herbivorous animals consists entirely of extractive and mucilaginous matters, obtained by maceration from the vegetable substances on which they feed. Hay, upon which horses and kine will even fatten, very readily yields all its sapid and nutrient parts to water. Farmers very well know that if their hay be drenched by repeated showers, after it is cut, it is scarcely worth the making. When hay has been very scarce I have been informed that, for the sake of œconomy, hay tea is sometimes prepared for cattle, in which is dissolved every thing nutrient which the plants contain, and of course there is no waste. On this cattle will fatten, if they are furnished with cut straw for producing the usual distension of the stomach, and which yields no nutriment.

Now, is it to be supposed that this decoction of hay is acted upon by a gastric juice, converted into chyle, and then absorbed by the lacteals? Indeed we are assured by direct experiment that these substances are taken up in great quantity by the intestinal veins of these animals. M. Flandrin ascertained that, in the horse, the venous blood of the small intestines possesses a strong herbaceous taste, if obtained from the animal soon after it has taken food.

How such fluids, absorbed by the veins of the stomach, may become assimilated it is easy to conceive. Not a particle of blood from the stomach nor the intestines enters the general circulation till it has permeated the liver, the most important gland in the animal œconomy. Here not only are the nutrient matters assimilated, but the crude and saline substances which reach

the gland from the stomach in the first stage of digestion, probably furnish the materials of the bile, which fluid being then abundantly secreted, is conveyed to the duodenum, there to meet the residue of digestion, and to exert an important influence in the preparation of the solid aliments, as well as in stimulating the intestinal canal.

We may infer, from the above, that some of the constituent principles of the bile are furnished by fluids which have never entered the general circulation, but are the feculent parts of such substances as are absorbed by the veins. We have thus another reason, also, why bile is more copiously elaborated, from the time that digestion commences. It also enables us to explain the variable nature of that fluid, and also the fact, that its constituents cannot all be detected in the circulating blood. Thus, too, we confer upon the liver an office so long denied to it, corresponding to its magnitude, complexness of structure, and pathological importance; for, if our inferences are correct, it is one of the most important of the assimilating organs, since the elaboration of bile, from the fluids absorbed, is especially subservient to their animalization.

It will be recollected by those into whose hands an *Essay on Digestion*, published by me a short time since, may have fallen, that, in it, and in the supplement which followed it, I advocated the following principles in regard to that function:—

1st. That, of the substances taken into the stomach, some, and especially the fluid aliments, are taken up by the veins and conveyed to the liver, where they are further assimilated previously to being added to the circulating blood.

2d. The solid aliments which remain are slowly macerated and dissolved in the stomach, not by a chemical agency, since the constitution of the secreted fluids of that organ does not warrant the supposition, and because, also, the solution is not effected when the nerves of the stomach are divided, nor when these fluids are removed from the stomach. It is accomplished probably by a vital influence, conferred upon its fluids by the nerves of the stomach.

3d. The solid aliments thus rendered semi-fluid on reaching the duodenum, and having been acted upon by the hepatic and pancreatic secretions, are absorbed by the lacteals, not becoming chyle, however, till they have entered these small vessels. Thus, the constituents of the blood, as furnished by digestion, are immediately derived from two sources, a circumstance by no means inconsistent with the compound nature of that fluid.

N. R. S.

ART. II.—*On the Uses and Abuses of the Tartrate of Antimony.*
By the EDITOR.

THERE is scarcely any article of the *Materia Medica*, the action of which on the human system is more energetic, or the effects of which, if excessive, are more appalling than those of the Tartrate of Antimony. So violently does it break in upon the healthy series of actions, that it is with propriety regarded as a most active poison, and its character as a remedial agent can be preserved only by the most careful discrimination in its employment. The metal from which it is prepared is, in its sensible properties, exceedingly like arsenic; and the salts, which are obtained from the two substances, bear the same analogy to each other in regard to their influence on the system.

Unfortunately tartar emetic is also a medicine which varies very much in its purity, because sometimes accidentally adulterated in the pharmaceutical mode of preparing it, and because, too, its adulterations are not so obvious to the eye nor taste as those of many other medicines.

Nor, if the medicine be of uniform strength, is its action on the stomach always uniform, in regard to its emetic effects, for which it is usually given. Sometimes an idiosyncrasy exists, in consequence of which vomiting does not occur, and yet the deleterious effects which ordinarily provoke the stomach to reject it may nevertheless take place. In some diseases it is very probable that the sympathies of the organ are so deranged that, although it be exceedingly irritated by the article, the associations by which vomiting is produced do not succeed. The

effort to vomit is made with great difficulty and reluctance, when the muscles, lungs, diaphragm, and other organs, which are convulsively affected in vomiting, are so inflamed, or otherwise diseased, as that nature anticipates great pain in the act, and rather endures the irritation of the medicine on the stomach than resorts to it.

An intelligent medical friend informed me of a case in which this medicine was given to a patient affected with peripneumony, characterized by difficult and painful respiration.—Venesection had been premised and the patient was thought to be convalescent; but for the relief of certain unpleasant affections, full vomiting was attempted with tartar emetic. The ordinary dose was given, but no other effect resulted than an indescribable and general distress. It was deemed the more necessary, therefore, that the stomach should be made to re-act; accordingly the dose was repeated; and, for the same reason, was even given the third time, and in increased quantity. Still vomiting did not take place, but there very soon occurred a general prostration of the powers of life, and the patient sunk.

Physicians of the school of Broussais, no doubt, carry their antipathy for this remedy to an extreme, almost rejecting it from the Pharmacopœia, but certainly their objections are in a great degree founded in reason and experience. It cannot be doubted, even by those who deny the general principles of Broussais, that, in a great many fevers, the mucous linings of the stomach and intestinal canal are the principal seat of local irritation; nor can it be denied by any one acquainted with the vital character of these membranes, and their remarkable sympathies in health and disease, that, when thus irritated, they must exert a decided influence over the rest of the system.

So acrid an irritant, then, as tartar emetic, must, in such cases, greatly aggravate the disease, unless, as undoubtedly sometimes occurs, it makes so powerful an impression on the part and on the system generally, as to subvert the diseased action and establish a new one. Such a result, however, with our present knowledge of therapeutic principles, can only be fortuitous.

How frequently, then, must the administration of this article

be productive of mischief, when indiscriminately used in all diseases of an acute febrile character, as it is employed by many practitioners.

It may be objected that, had this been true, experience would long since have detected the error, and forbid its general use; but in these diseases it is not always easy to distinguish the effects of remedies from the morbid phenomena; indeed they are sometimes so confounded that we believe factitious epidemics have been produced by the abuse of a fashionable remedy. I doubt not that many cases of slight derangement of the alimentary canal have been converted into continued fever by an irritating dose of tartar emetic.

When a sick man convalesces, the amelioration is always ascribed to the action of remedies; but if the *disease* waxes strong, it is as uniformly attributed to the natural progress of the malady, and perhaps the very articles are redoubled which have provoked the disease. For myself, I am among those who believe that when we shall have attained to any thing like precision in the use of the powerful remedies which we now so freely employ, the review of our present practice will be but a melancholy retrospect.

Still less frequently salutary will be the effects of full doses of tartrate of antimony in dyspeptic and other chronic affections of the digestive organs. They are certainly often associated with, if not dependent upon, a chronic inflammation of the most sensitive part of these organs, namely, their mucous linings.—This article, therefore, must, in many of these cases, produce injurious effects, more or less remarkable. It is very much to be deplored, then, that in our country, among those physicians who were educated some twenty or thirty years since, it is customary to commence the treatment of these chronic ailments with an antimonial emetic, for the purpose of removing the præcordial uneasiness which they ascribe to *foul stomach*. This is followed by the Brunonian method, and bark, bitters and iron, often bring the disease to a fatal maturity. Hence it is that, in these affections, quacks have been so notoriously successful, at least such of them as employ mild, aperient and diaphoretic syrups, &c.

Tartar emetic, when given in cases in which emesis is indica-

ted, sometimes disappoints the practitioner by producing, instead, copious alvine evacuations. These, in such cases, may be exceedingly injurious, as, for instance, in croup, and in certain diseases of the lungs. It does not seem so much to promote the glandular secretions of the digestive organs as many other substances do, but excites abundant exhalation from the blood-vessels, producing prostration, delirium, and sometimes even convulsions and death. I have observed its effects to resemble closely the symptoms of violent cholera.

Several cases of croup in delicate children have been related to me, in which the colliquative evacuations thus produced by it, have anticipated the fatal result of the disease. When it begins to operate copiously, as a cathartic, expectoration ceases; the fluids, by a centripetal determination, leave the surface and accumulate in the vital organs; diaphoresis, which in this disease should always be cherished, is suppressed; the surface becomes cold and the pulse contracted. These are known to express a fatal prognosis.

Such, then, being the energy with which this medicine acts on the system, and such its equivocal character as a remedy, it becomes necessary that it should be employed with the most precise discrimination, and in those cases only in which a milder remedy is inadequate to the indication.

That form of disease in which the tartrate of antimony is admissible and necessary, is inflammatory fever, either without any particular local determination, or at least without evidences of irritation in the mucous membranes. The indications which it then answers are:—1st, To subdue preternatural action. This it accomplishes by its emetic effects, by diaphoresis, and by nausea. 2d, To evacuate irritating substances, as acrid bile and other secretions. 3d, To effect a derivation of action from some other part, by the impression which it makes upon the mucous membranes. This may be desirable in some cases of inflammation of the serous membranes. Many substances which thus impress the mucous membranes are useful in those affections.

When all these indications are to be answered, nothing is more effectual than this article, and especially if it be so managed as to produce an emetico-cathartic effect, by combining it

with the sulphate of soda or magnesia, in the proportion of three grains of the former to an ounce of the latter, to be dissolved in eight ounces of water, and given in table-spoonful doses, once in half an hour, till the desired effect takes place.

The anti-febrile effects of this medicine, in minute and frequently repeated doses, are well known; but certainly it is not to be employed in those cases in which mucous irritation is the source of febrile commotion.

The therapeutic precepts which I have given above will admit of the employment of the remedy in a considerable number of febrile diseases. In croup it may be invaluable, when there is high inflammatory action and a vigorous constitution; sometimes, however, when it has not subverted at once the diseased action, I think I have observed it to irritate the fauces, and thus, by continuous sympathy, to aggravate the phlogosis of the larynx. For evacuating substances from the stomach, tartar emetic is often most effectual, but certainly ought not to be employed to remove a metallic substance like itself, as, for instance, arsenic.

It is unnecessary, however, to specify the particular diseases in which it may be safely employed, since we are not to associate it with the name of the disease, but to employ it according to those general principles which I have laid down, perhaps, with sufficient minuteness.

Tartar emetic, in full doses, has been employed with marked success, by a highly distinguished physician in this city, in mania-a-potu. The correctness of his observation is not to be questioned. It is probable, however, that he found it principally useful in those cases in which there prevailed general excitement, with not much gastric irritation. Perhaps, however, to this particular disease, the remedy may bear a relation, which cannot be explained upon principles with which we are now acquainted. We will not oppose general inferences to the dictates of experience, when they come from so respectable a source.

We had designed to associate with these remarks, on the above article, a few words on the employment of a compound of ipecac and calomel, as a safe and efficacious substitute for tartar emetic, but we must reserve them for our next.

[The following case was communicated to us in the German language, and although drawn up in a very able manner, we have taken the liberty, in translating it, to condense it considerably, without, however, omitting any circumstance of material interest communicated in the original.]

ART. III.—*A singular case of Simultaneous Extra-Uterine and Uterine-Fætation.*—Communicated by Dr. H. DETWILLER, near Bethlehem, Berks County, Pennsylvania.

MRS. KREMER, aged about thirty-three years, of robust habit of body, became affected, about two and a-half years since—a few months after marriage—with slight pain in the left side of the lower part of the abdomen, accompanied with a gradual enlargement of the breasts and the abdomen, and frequent nausea and vomiting. The catamenia, however, continued to return regularly until the beginning of January, 1825, when they ceased to recur. The pain and vomiting became now so distressing that she was induced to apply to Dr. Martin, of Allentown, for medical advice. On the 6th of January, 1825, he found the patient labouring under the following symptoms: violent and continued pain in the abdomen, attended with a constant and urgent desire to void urine, of which only very small portions were passed; the bowels were torpid, vomiting frequent, pulse hard and full, the skin dry, tongue covered with a white slime, inappetency, abdomen not painful to moderate pressure, except on the left side of the *linea alba*, a few inches below the *umbilical region*, extending towards the superior spine of the ileum and into the *regio pubis*. It is unnecessary to detail the treatment employed for the purpose of mitigating the patient's suffering; suffice it to say that on the 23d of April, 1825, when I saw her first, in consultation with Dr. Martin, I found the left ovarium much enlarged and hard to the touch, without much tenderness, or pain in the surrounding parts of the abdomen. The ovarian tumour, when in a recumbent position on the right side, sunk down, from its weight, beyond the *linea alba*, without occasioning any particular uneasiness. When the patient lay on her back, or was even in an erect position, the *distended uterus* could also be distinctly felt through the abdominal parietes, particularly on pushing the enlarged ovarium with one hand into the left side.

On examination, *per vaginam*, in different positions, the vaginal portion of the uterus was found tumefied; and in no position was it so high up as it is usually found to be at this period (third month) of pregnancy. The *os tincæ* was small and circular. As it appeared to us quite probable that the woman was pregnant, and as the nature of the ovarian tumour was still exceedingly doubtful, we concluded for the time to adopt a palliative treatment against this latter cause of uneasiness.

Her bowels were kept soluble by mild aperients, and the occasional exacerbations of pain were mitigated by Tr. Opii Acetat: The nausea and vomiting were restrained when they occurred—which was indeed frequent—by the use of the *potio riverii*.

The patient did not perceive the motion of the foetus *in utero* until the fifth month of her uterine pregnancy. On the 22d of October, 1825, labour commenced, and in eighteen hours after she was delivered, by Dr. Martin, of a healthy and well formed child, weighing nine pounds. The placenta came away without any difficulty. After the expulsion of its contents the uterus contracted regularly, and the loss of blood was not greater than usual. During parturition, and for two days after, the ovarian tumour, which was now very large, was entirely free from pain. On the third day, however, the patient began to complain of considerable pain in the left hypogastric region. This part of the abdomen was very much distended by the enlarged ovarium, and now extremely sensible to the slightest pressure. A slight chill, succeeded by febrile reaction, supervened; the pulse was contracted, irritated and frequent; the skin dry, tongue moist, clean, and redder than natural; the urine voided with difficulty and pain; bowels constipated; lochia regular in quantity and quality; secretion of milk scanty; no appetite, mental depression. The patient was bled, and Ol. Ricini was administered with occasional laxative enemata. Fourth day:—three alvine motions this day; the preceding night passed without sleep; secretion of milk suppressed; tongue covered with a white fur; cephalalgia; pain in the left side increased; frequent vomiting; pulse quick and very small; venæ-section; and opium given internal-

ly, with embrocations over the lower part of the abdomen. The symptoms continued to become more and more alarming, until she expired on the eleventh day after delivery.

Sectio Cadaveris.—The body was examined fourteen hours after death by Dr. Martin, in the presence of several medical gentlemen. On opening the abdomen, about four quarts of serous fluid were found in its cavity. The left ovarium was situated in the left hypogastrium, of which it occupied the whole extent, covering the uterus and left kidney, and extending into the right hypogastrium. On the right side of this ovarian tumour there was an opening of about an inch in length, through which a fluid, similar to that which was found in the abdomen, issued on pressure. The small intestines, as well as the peritoneum, was marked with a number of gangrenous spots. As the circumstances and time did not allow of a particular examination of the parts immediately concerned in the disease, Dr. Martin carefully removed the uterus with its appendages from the body, and had it conveyed to his office for more minute inspection. The uterus, which was contracted to the ordinary size, for the time which had elapsed, between the delivery and death, was gangrenous on the superior part of the left side of the fundus. The remaining portion of the uterus, and especially its neck, exhibited no traces of violent inflammation or gangrene. The fallopian tube and the broad ligament of the left side were considerably thicker than those on the right, which latter also were more fleshy and enlarged than in the normal state. The former were throughout gangrenous. The left fallopian tube appeared to be pervious through its whole length. The fimbriæ were very remarkably enlarged. The ovarium of this side, after the evacuation of about two quarts of a watery fluid, was of an irregular elliptical shape, measuring in its longest diameter (from the right to the left side) seven and a-half inches; and in its shortest diameter (from before backwards) three and three-quarter inches. The diameter from above downwards measured six inches. This ovarium exhibited marks of gangrene, particularly at the membranous part of the right side; on laying it open, the crowns of four molar teeth and two incisors imme-

diately came to view. Two of the molar teeth were contiguous to each other, and were seated upon an irregularly shaped piece of bone, of about one and a-quarter inch long, and three-quarters of an inch thick, to which they appeared to be merely agglutinated, as they were easily separated from it. They were wholly destitute of roots. Distant about a quarter of an inch from these, the crown of a third molar tooth, situated in a direct line with the former, was seen; and this also was attached to a small piece of bone. One inch from this latter there was seen the crown of an incisor tooth—placed in a line with the others, on a quadrangular piece of bone, about one-quarter of an inch broad and one line thick. This tooth had a small and pointed root, by which it was fixed more firmly than the others to its bone. The crown of the fourth molar tooth was placed about two and a-half inches from the former, in an opposite direction, and was attached like the others to a piece of bone. At a considerable distance from these was seen the second incisor tooth, connected with a fragment of bone two inches in length, a-half inch in breadth, and nearly two lines in thickness. The crown of a fifth molar tooth was found buried in the mass of the tumour, unattached to any bony substance. All these teeth were very white, and perfectly regular in their structure. Throughout every part of the membranous cavity of this ovarium a number of whitish hairs were found; in some parts there were considerable tufts of them, of an inch and a-half in length. On cutting through the fleshy part of the tumour, several small cavities were laid open, all of which were filled with a thick yellowish fluid.

A number of bones of various sizes and forms were found imbedded in the solid mass of the tumour; none of these, however, approached to the shape of any of the bones of the human skeleton, though in their intimate structure and composition they were essentially osseous. The membrane, which, with the solid part of the mass, formed the large cavity, consisted of two lamina, closely united by cellular texture. The right fallopian tube, with its fimbriated extremity, exhibited no marks of previous disease, with the exception of their increased thickness. The ovarium of this side was conspicuously enlarged, and con-

tained about four ounces of a slightly turbid fluid. On cutting into the membranous sac which contained this fluid, a small fleshy mass was detected, which, like that found in the left ovary, was interwoven with hair, but contained no bony substances.

[In the first volume of the quarto edition of the Philosophical Transactions, published in 1756, a case is related of a woman who was pregnant with the same foetus eighteen years, during which time she was delivered of another infant, and finally discharged the bones, integuments, &c. of the first by an abscess to which it gave rise.

In the same Transactions for 1747, Mr. Francis Drake, surgeon, gives the history of a case of extra-uterine pregnancy, which had continued between three and four years, when the patient was delivered of a living infant, at the full time, and the extra-uterine foetus was subsequently discharged by an abscess.

In the same publication, there is a case related by Dr. Middleton of a woman who was pregnant for sixteen years of an extra-uterine foetus, during which time she was delivered of four infants, and at the end of this period the first foetus was found in the abdomen.]

ANALYTICAL REVIEWS.

ART. I.—*A Treatise on Physiology, applied to Pathology.* By J. V. BROUSSAIS, M. D. Translated from the French, by John Bell, M. D. and R. La Roche, M. D. Philadelphia.

Continued from page 32.

IN Sec. iv of Chap. VII. the author treats particularly of the phenomena of Intellect. That man derives his intellectual pre-eminence from the relative volume of his brain, is, according to him, a fact so obvious, that it is only necessary to advert to it.

Human intelligence consists in consciousness of, or reflection upon, our sensations. We feel, mentally, that we have felt physically, or that our organs have felt. This mental recognition of our sensations assures us of our identity, and is the source of our ideas. The power of reflecting on sensations which are past is *memory*, and the comparing of them is *judgment*. The *will* is the faculty by which we chose the sensation we will obey.

M. B. observes, that although the intellectual faculties are one of the effects of the functions of the brain, yet it is not a constant, and at all times necessary, result of its action.—The cerebral action is sometimes withdrawn from the empire of the mind. It has a constant function in which it is employed. This is its organic office, by which it establishes sympathies between different organs, and associates them for the preservation of life. This office it discharges before we are conscious of existence, and in the imbecility of age. The intellectual operations, therefore, cannot be regarded as the inherent and appropriate *function* of the brain, but only as one of the results of its action.

From the above it follows that the brain may continue its offices in regard to sympathy, without our consciousness, and may transmit the influence of disease from one organ to another without our feeling it.

In speaking of the relation of the intellectual faculties to external objects, which excite their manifestations, our author subscribes to the idea, that sensation is the source of every thing upon which the intellect operates; but he places among the senses the mucous membranes of the viscera. Impressions made upon them excite sensations in the brain precisely as do those upon the external senses.

As this last observation is characteristic of our author, we dwell upon it with more particularity.

We illustrate the office of these internal senses in the following manner:—When we look upon palatable food, at the time that we feel an appetite, the external senses transmit the impression to the brain, from which, as a centre, it is diffused through every part of the system; the impression, however, is especially felt by the stomach, between which and the external substance there exists a relation. The stomach then re-acts upon the brain, and we feel a desire to appropriate the aliment to our use. The sensitive part of the stomach, then, which is the mucous membrane, may thus be regarded as an internal organ of sense. The viscera are more especially the seat of the principle of instinct, but when we are *conscious* of the instinctive movements, they come under the domain of intellect, and are often counteracted by it. The intellectual man daily sacrifices his sensual pleasures to love of power, fame, wealth, &c.

The fear of pain and the prospect of pleasure are, nevertheless, always the motives for the actions of men; the perception of them being in the cerebral apparatus, and counteracting the impulses of instinct from the viscera. These cerebral impulses, however, according to M. B., interest the viscera, and remotely relate to their wants; thus, the mariner, after a long voyage, rejoices at the sight of land; the sound of a torrent alarms the weary traveller, because impeding his progress. There is scarcely any object seen in nature which has not some relation to our wants, and the perception of which is not reflected by the viscera.

This relation of the intellectual operations to the state of the internal organs, is highly important in regard to their diseases. There is scarcely any idea on which we can dwell, however abstract it may be, which has not a remote relation to our physical wants, and thus it influences the functions of the internal organs. When the internal organs are in a state of irritation, as from wine, the effect is the greater, because they are more susceptible.

SEC. V. *The Passions*.—The Passions are the result of our intellectual operations, but cannot exist without a number of sensations referable to the viscera, which sensations are founded on our instinctive wants. Our sensations are either painful or pleasurable. We are moved with the passion of hatred toward those who affect us with the former, and with love toward those who excite in us the latter. Self-love, the first and the source of all the passions, is founded on the instinct of self-preservation; whatever endangers our being is hated; whatever contributes to its security is loved. We have, 1st, passions founded on pleasures; and, 2d, those founded on pain. Of the first is sexual love; love of offspring; friendship; pride; vanity; honor. All these, according to M. B., have their source in self-love, though often remotely perceived. The passions, however, which are founded in pleasure, are often interrupted by pain, and thus become mixed; love, when it meets a rival, becomes jealousy.—

Of the passions founded in painful sensations are anger, fear, despondency, jealousy, &c.

Sadness or grief is a term which expresses the general pain which we experience from all the turbulent or depressing passions. This is nourished by two causes: 1st, melancholy thoughts; 2d, a painful feeling in the viscera. Whenever the cause of grief is perceived by the external senses, and then conveyed to the brain, an uneasy sensation is instantly perceived in the epigastric region, and this reacts upon the brain, increasing the emotion. This reciprocity may be proved by the fact that, if an irritation in the stomach, or preternatural susceptibility, be produced by stimulating ingesta, then will melancholy readily occur, because a slight cause will produce the re-action of the viscera on the brain. On the other hand, too, sad thoughts are observed to produce irritation in the viscera and gastritis, which cannot be removed until the mental emotion that produced it be dispelled. Sadness, then, from cerebral emotion, may excite gastritis, and gastritis may excite cerebral emotion; they reciprocally operate upon each other.

Nature, however, guarding against the excess of every thing noxious, re-acts upon the painful feelings produced by sadness, and excites a new sensation, which prompts to repel or to escape from the source of our pain; if the former, it is anger, and if the latter it is fear. These states are not often persistent, but the offending cause being overcome, or avoided, the nervous system becomes tranquil. While fear and anger continue, however, they actuate powerfully the brain and apparatus of relation, and through them effect their object. When actuated by anger we violently, and with increased strength, repel an object; and when by fear, we involuntarily fly from it.

Anger may spring from an intellectual operation, but according to M. B. it succeeds in exciting the system only by affecting the viscera, and producing sensations which re act upon the brain. This he infers from the fact that gastric irritation, produced by disease, may create the phenomena of anger, without any intellectual cause; anger will also, when persistent, produce gastric inflammation.

The influence of fear on the organic systems is equally obvious in the phenomena of tremors, palpitation, pallor, contractions of the skin, sweat, sometimes tears, and the involuntary evacuation of urine and feces. There seems, then, to be a tendency in the hollow organs to contract; this is especially the case with the heart, and if the effort to escape, to which these feelings prompt, does not soon take place, rousing the energies of the system, syncope supervenes, and sometimes this terminates in death. The depressing effects of fear are dispelled by flight, the muscular efforts to which it prompts accelerating the circulation and rousing the nervous functions. Fear may also be

converted into anger, which contends against that which was first the object of fear.

CHAPTER VIII.—*Laughter, Ennui and Sleep.* Laughter results from an intellectual emotion of a peculiar kind, exciting sensations in the ganglionic visceral nerves, and giving rise to convulsive and involuntary movements, in which the respiratory apparatus is especially concerned. Laughter hurries nervous action in all the senses, and in all the muscles—accelerates the circulation, perspiration, and indeed excites every organ, when it is not so excessive as to impede the action of the heart and lungs. Laughter is sometimes produced by disease. This results from there being produced in the ganglionic nerves, by some other cause, the same sensation which intellectual movements more frequently excite there prior to the act of laughing.

Ennui is a peculiar sensation of uneasiness which proceeds from defect of intellectual exercise. It is characteristic of rational man. All the uneasiness of savages and brutes proceeds from the perception of a physical want within them; but the intellectual being feels the *want* of intellectual gratification, and is unsatisfied with mere sensual repletion. M. B. observes that the deficiency of moral excitement can only produce ennui by affecting, in a painful manner, the splanchnic nerves; when, therefore, there is morbid susceptibility in them, ennui more readily occurs. Ennui has also a tendency to produce this morbid susceptibility.

Sleep is defined to be the repose of those organs charged with the external relations. It is unnecessary to dwell upon its phenomena. M. B. combats the idea of many physiologists, that, while the external functions are diminished, the internal are increased during sleep, nutrition becoming predominant. Broussais observes this to be disproved by diminution of circulation, respiration and appetite. Whoever does not sleep during the night requires food. Persons who sleep much are more fleshy only because they lose less by exercise than others. Persons in sleep are warmer only because usually more clothed. Different persons differ greatly in regard to the intenseness and duration of sleep. Some are perpetually restless, not all the organs of relation being quiescent. This is the case with somnambulists, a part only of their faculties sleeping.

The occlusion of the eyelids in sleep is not owing to the mere falling of the lid, but to an action of the orbicularis. This is inferred from the fact that the levator muscle is stronger than the orbicularis, and hence the eyes open in death. The uneasiness which constitutes the want of sleep becomes the peculiar excitant of the orbicularis muscle. Some have ascribed the sensation of fulness in the eyes to cerebral engorgement, but this should rather rouse the organs of relation, since we always see it to increase sensibility.

CHAPTER IX.—*Of the manner in which the exercise of the Intellect, the Affective Movements and the Passions, become causes of Disease.*—The account of the physiological relations of the brain and viscera, and of the domain of the intellect and the passions, which has been given above, will enable us to appreciate their pathological conditions.

In intellectual exercises of an abstract nature, and which but in a very small degree involve the passions, such as the classification of bodies, arithmetical computations, mechanics, &c. very slow organic changes are produced, and these are for a time confined to the brain. This organ becomes a focus of irritation; the head becomes engorged, heavy, with either drowsiness or obstinate wakefulness. The exaltation of these phenomena ends sometimes in apoplexy, insanity, idiotism, &c.—If the cause be continued without becoming fatal to the brain, the nervous apparatus of relation becomes similarly affected, general irritability results, and susceptibility of disease from ordinary impressions.

Sometimes there occurs remarkable debility in the muscular apparatus, produced by excessive exercise of thought. There then follows slow digestion, languor in cutaneous transpiration, with a train of evils. Herpetic eruptions, irritability, with plethora, inducing gout and erysipelas, are diseases characteristic of the student.

When in early life the intellectual powers are assiduously exercised, those faculties become singularly perfect, and are accompanied with corresponding development of the brain; this, however, is at the expense of other organs; the intellect becomes too energetic for the body, and agitates too powerfully the organic systems; such individuals die prematurely.

But if deliberate intellect, alone, can thus impair the functions, what are we to expect from the emotions of *passion*, the influence of which, on the vital organs, is so obvious? Primarily the passions excite an exceedingly strong irritation of the encephalon; congestions, sometimes so violent as to produce effusion and organic lesion, and death, sometimes result from sudden bursts of anger, joy, terror, &c. The heart is also spasmodically affected to such a degree as to interrupt its functions.

Sudden fits of the violent passions sometimes produce almost instant death, probably by the shock given to the epigastric centre, and very much as do blows upon this region. In other instances violent passion produces death by commotion of the vascular system; the phrase, "a broken heart," is sometimes literally true—the organ being ruptured by the unequal action of the circulatory organs, and the consequent congestion of some of them. Apoplexies often result from the same cause; also hæmorrhages by exhalation, as hæmoptysis. That these may often be occasioned by mental emotions, must be obvious to any one who has

observed how, by their influence, the blood sometimes recedes from the surface and the extremities, surcharging the heart and other viscera, and how violently and painfully the heart re-acts upon the blood in order to restore the equilibrium.

The influence of passion on the secretory functions is equally remarkable. Anger is known to affect the secretion of bile—fear, that of the urine and perspiration. Anger singularly modifies the secretion of saliva, rendering it abundant, thick, and, what is truly astonishing, venomous: the bite of an enraged person produces an unhealthy wound. The bite of a dog, when exceedingly irritated, produces hydrophobia, though he may not have been affected with the disease.

The muscular system is powerfully influenced by pathetic emotions, and is often thrown into convulsions. That kind of disturbance of the nervous and vascular systems which results in inflammation, is often produced by emotions of the mind, and this especially occurs in the stomach and cerebral organs.

Particular passions, however, produce their peculiar effects; those founded on pleasure are observed to diffuse action throughout the capillary system, and to give a centrifugal direction to the fluids. They produce a vital glow in every part of the system, which produces a pleasurable sensation. The opposite effect of the depressing passions we have already observed; these, however, are often attended with re-action, but when not, as in habitual melancholy, the heart becomes constricted, the surface cold, pulse small, viscera congested, and ultimately organic derangements result.

These, then, being the pathological effects of mental emotions, it is obviously of the utmost importance that the physician should duly appreciate them as causes of disease, and as means of influencing the condition of the system. The excitation of a painful passion may give fatal energy to disease, and a pleasurable emotion may, in some states of the system, produce a salutary change, which no article of the *materia medica* would induce.—In the treatment of diseases, then, the state of the mind is to be carefully observed, and the means which it furnishes for influencing the system are by no means, in practice, to be disregarded.

CHAPTER X.—*Of the Muscular Apparatus and its dependencies.* It is not necessary that we should dwell upon the structure of these organs. The bones constitute the passive part of the apparatus of motion, and the muscles the active. The muscles are useful in the œconomy, by virtue of their contractility, an inherent property, and they are excited to contraction by nervous stimulation. As their increased action always accelerates the circulation, a preternatural stimulation of them may be productive of disease in the vascular system. Hence violent and long continued muscular contractions often produce inflammatory affections; or they may produce the more sudden phe-

nomena of vascular disease, as hemorrhage from rupture or effusion. Long continued muscular contractions also produce irritation in the stomach, and exhaust the nervous power.

M. B. asserts that all the muscles are immediately dependent upon the brain, in reference to their action, although he divides them into the *cephalic*, which, in the natural state, only obey the stimulus of the brain with the consent of the will; and into *cephalo-splanchnic*, which obey the viscera through the intermediate agency of the brain, in spite of the will, and also obey this latter, but only when the viscera are not in want of their assistance. The cephalo-splanchnic are exemplified in the muscles of respiration.

We cannot agree with M. B. in his general statement, that all muscles are dependent, in regard to their contractions, upon the brain. We believe that contractility is inherent in the constitution of the muscular fibre, and although its appropriate stimulus is ordinarily that which is conveyed by the nerves, yet in some instances that stimulus is derived from another source, and is independent of the brain. The heart obeys the stimulus of the blood; the nerves which are appropriated to it are only sufficient to associate it with those organs which conspire with it to a common office.

ART. II.—*Chemical Apparatus.*

WE have been much gratified by the examination of two pamphlets published a short time since by Professor Hare, of the University of Pennsylvania. They contain descriptions and figures of nearly one hundred chemical and philosophical instruments. The figures are, we think, the finest specimens in this department of wood-cutting that we have seen from an American artist, and would do credit even to Bewick himself. Besides the instruments noticed in the above pamphlets, Professor Hare has published a number of others in the first volume of the Franklin Journal, of this city, a periodical of great merit and value. Though utility appears to have been the principal object of the Professor in all this display, and though a considerable number of the descriptions and figures very aptly illustrate their intended object, yet, in our opinion, there is a great deal which is wholly unnecessary, and not a little exceedingly confused and complicated, both in the apparatus and in the explanations. Of the fifty-five instruments in part 1st, only five are stated to be “contrived by the Author;” one of these, No. 26, intended to illustrate the mechanism of breathing, is almost identical with the apparatus figured in the Conversations on

Chemistry, Vol. 2, plate 15, (Lond. ed.) Mrs. B's contrivance is undoubtedly the better of the two, and we would advise the Professor and others to substitute it in their demonstrations. No. 25, we are informed at page 23, was "contrived by the author," but in the *contents* it is said to be a modification of some instrument by another inventor. The apparatus itself we think a bad one, and the statement of the principle to be thus explained, by no means clear. No. 46 represents a model to which the Professor can have but small claims as the inventor. The plan of representing the rays of heat or light by means of threads or beaded lines, has been long applied to optical and other instruments. No. 50 is an excellent practical instrument, though we see no advantage in the huge weight, which acts as a counterpoize to the plunger, which, as it is made of wood, ought to float of its own accord on the surface of the acidulated water. No 51 is too much of a trifle to be figured at any rate, but more especially as the author informs us in a note that "he finds a small breakfast-plate preferable to the cup here represented." The wood-cut, however, is exceedingly fine.

In part 2d we have forty figures and descriptions. Some of the contrivances here given are highly ingenious, though far too expensive and complicated in their structure ever to be generally introduced into the laboratory. We shall say nothing of the sympathetic picture, No. 34.

Some of the figures in the Franklin Journal are introduced into these pamphlets, and, if we mistake not, we have seen these beautiful cuts, since their publication, in a separate form, in four or five periodical Journals of the day, viz: in the Philosophical Magazine, in Silliman's Journal, in the Philadelphia Journal of the Medical and Physical Sciences, &c. &c.; we mention this, that they who have purchased these pamphlets may know that there is nothing new on this subject in these several works. In the Franklin Journal, however, we were very much surprised to find an ingenious piece of apparatus, not introduced into these pamphlets, claimed by Professor Hare as being his invention—this he calls a Litrometer. Instruments of this kind, imported from Europe, we know have been in use in some of our schools for years before this publication. We do not bring the charge of plagiarism against the Professor, for ingenious men will often hit upon similar contrivances, but it behoves him to be very cautious on this subject, especially after what he has written respecting the late Dr. Clark and his blow-pipe.

Upon the whole Professor Hare will receive the thanks of every experimentalist, if not of every student, for his valuable little tracts on Philosophical Apparatus. If he has not given us much that is new, he has put within the reach of every one much that is valuable. "*Indocti discant et ament meminisse periti.*"

ABSTRACT OF FOREIGN MEDICINE.

ANATOMY AND PHYSIOLOGY.

Regeneration of the Chrystaline Humour.—Attention has recently been directed, both in France and England, to the reproduction of this body observed in animals experimented upon. M. Cocteau and Leroy d'Etoille performed several experiments in relation to this subject, among which were the two following:—The chrystaline was extracted from the eyes of two rabbits. At the end of a month they both saw very well. One of them was afterwards accidentally destroyed; the other was dissected at the end of six months. The capsules were found perfectly transparent and free from cicatrices; they also contained lenses, smaller, indeed, than natural, but nevertheless as hard as those which are congenital.

The above facts lead us to query whether, in that diseased condition of the eye, resulting in opacity of the lens, this organ is ever reproduced on being extracted? We should incline to think that the cause which first renders the lens opaque, or disorganises it, would hinder its re-organization.

Cephalo-Spinal fluid.—The Med. Chir. Review translates from the *Revue Medicale* some interesting observations on this subject. It is observed that there are two things which often puzzle us in examining the bodies of the dead,—the disproportion of size between the spinal marrow and the canal in which it is contained, and the fact, that in almost all cases, there is more or less serous effusion (as it is called) at the base of the skull and in the vertebral canal. In a recent memoir, M. Magendie has termed this fluid *Cephalorachidien*. He finds it to be uniformly present, probably essential and varying in quantity in health from two to five ounces. It is most considerable in the brains of old persons, because in them the organs shrink and the vacant space is occupied by the fluid. When, in animals, it is drained off, it is quickly reproduced. Its abstraction produces numbness, its increase by injections causes palsy. The disease termed *spina-bifida* is, according to M. M., a hernia of the membrane containing this fluid. He also asserts that the lateral and other ventricles communicate with each other, and all with the sub-arachnoid spinal canal, through a passage between the two cerebellic arteries. Whenever this fluid morbidly accumulates it freely passes throughout all these passages.

PATHOLOGY AND THERAPEUTICS.

Identity of the Vaccine and Varioloid.—M. Guillon an old naval surgeon, vaccinator of the canton of St. Pol de Leon, not being able to obtain any vaccine matter for the purpose of opposing an epidemic of small-pox then prevailing, took virus from a varioloid pustule in a girl of fifteen, and inoculated with it a child at the breast. Ten fine *Vaccine* pustles resulted. From them forty-two children were inoculated, and all had genuine vaccine.—*Med. and Phys. Journal from Revue Medicale.*

Abdominal Tumour.—M. LISFRANC mentioned the case of a lady who had a moveable tumour in the belly, and which had so distended the integuments of the abdomen, that her extraordinary figure was the jest of every body. All the surgeons who were consulted dreaded any operation for her relief. One day this woman, in straining to pass a little urine, passed at the same time, pieces of yellowish mucus, and the size of her belly sensibly

subsided. But, during the discharge of these matters, there came on long-continued syncope, and at short intervals. M. Lisfranc being called, attributed these syncope to the void made in the abdomen, and he placed the patient in such a position that the inferior part of the pelvis was raised. The discharge ceased, and she regained her strength. However, from time to time the patient was placed so as to facilitate the discharges, and in a month the belly had its natural size. At present there can only be felt in the left flank a hard moveable tumour, the size of a fist, caused by the thickening of the cyst, which has for two years and a half remained in the same state, and continues to furnish, by the bladder, a small quantity of white matter. This lady has got fat, and enjoys in other respects good health.—*Ibid.*

Obeisity.—A remarkable case of obeisity is recorded in the last number of Grafe's *Journal für Chirurgie* which was radically cured by bleeding, the administration of purgatives, abstinence from animal food and the use of iodine. During the exhibition of the latter remedy, the patient rapidly decreased in size. It was given in doses of twenty drops of the tincture four times a day. One grain of iodine dissolved in one drachm of alcohol is the strength of the tincture employed by the German practitioners.—*London Med. and Phys. Journ.*

On two new Kinds of Urinary Gravel.—These new varieties of calculi were observed by M. MAGENDIE. The first occurred with a man of rank, a lover of good eating, who, being in circumstances in which he gave way to his inclinations, thought it right to eat each morning a large plateful of sorrel. After following this plan for more than a year, severe pains were felt in the loins and ureters, and shortly after a calculus was voided, six or seven lines in length, and two in width. It was hard, had an orange colour, and, being analysed, was found to consist of oxalate of lime nearly pure. The oxalic acid introduced into the system by the sorrel was evidently the cause of this calculus, and an effectual remedy was found in change of diet.

The second kind of gravel was of much more uncertain origin. In this disease (as yet undescribed) the saline deposit of the urine assumed two forms—being sometimes a fine white powder, mixed with a large quantity of small hairs, varying in length from a line to an inch or more; and sometimes, on the contrary, forming white pieces, of unequal and irregular form, having no great degree of consistency, and crushing between the fingers. The fragments did not, however, separate entirely, but adhered together by means of a multitude of small hairs like those described, which, being mixed with, made a part of the mass.

Maceration separates these hairs from both varieties of the hairy gravel, as they have been named. They are then found to differ but little from ordinary hair, except in being finer, and of a gray cinder colour. They are so numerous that the smallest fragments exhibit their extremities, and in certain instances the surface of the stone is visibly covered with them.—The accompanying matter being analysed, was found to be phosphate of lime, united to a small quantity of phosphate of magnesia, and uric acid.

Each of these varieties has been observed by M. Magendie but once; the patient from whom the first kind came, rendered an enormous quantity daily. The phosphate of lime common to both varieties is, according to M. Magendie, a result of the excessive use of animal food: as to the origin of the hairs, he does not even form a conjecture. The formation of these calculi was readily prevented by prescribing an almost exclusive regimen of vegetable food and alkalis.—*Journal of Science, from Bull. Univ.*

MATERIA MEDICA.

Artemisia Vulgaris in Epilepsy.—The German practitioners have much confidence in this remedy in cases of Epilepsy and Catalepsy, and some cases lately recorded afford additional evidence of its power over these forms.

dable and usually unmanageable complaints. It is recommended to be given in powder, in preference either to the decoction or infusion. GRAFE has lately recorded two cases in which it was successfully administered. It is considered necessary to continue the remedy for some time after the cessation of the paroxysms.—*Journal für Chirurgie und Augenheilkunde*.

Treatment of Pulmonary Complaints.—In the Clinique of M. le Professeur RECAMIER, the Hydrocyanic Acid has been tried in a dozen patients who showed symptoms of chronic pulmonary catarrh, or advanced phthisis. He began by two, three, or four drops of the acid in four ounces of a simple decoction, and the patient took a spoonful of this every two or three hours. The dose has never been greater than six drops. In three of the patients, no effects were visible: the different functions did not appear to be at all influenced by it. With the greater number, however, it caused warmth, with a sense of constriction at the throat, and heat of stomach; and in some cases colic, more or less severe. In one phthisical case it was necessary to discontinue it, as it caused violent diarrhœa. The urine and the cutaneous secretual functions, were not much influenced. In half of the patients who used the acid, the cough was decidedly diminished, as well as the dyspnœa and difficulty of expectorating. The sputa were not changed. The patients passed better nights. In one young man the cough ceased entirely, as well as the fever; but in the beginning of winter he had a relapse, and sunk under it. With these patients, soothing and other means had failed.

According to these experiments, it appears that the hydrocyanic acid acts chiefly on the digestive canal, and particularly when given in large doses. Indeed, in many of the cases where colic was produced, the medicine had been, by mistake, taken in too large doses.

These facts confirm the observations of M. J. BRUCHENEL, who, in recommending this acid in pulmonary catarrh, says it should not be used till the inflammatory disposition is subdued by depletion. One can easily imagine that the digestive canal then becomes less irritable, and can bear larger doses—even, as he says, to the extent of six or seven drops, without any bad consequences.

Several cases of recent Hæmoptysis have been treated with Nitras Potassæ, either alone or in combination with conserve of roses. The dose was from a drachm to half an ounce. It caused neither colic nor diarrhœa; the patients complained only of the acrid taste and sense of heat in the throat. The urine was augmented in quantity; and the spitting of blood was first diminished, and then entirely stopped in a few days. In one patient with every symptom of incipient phthisis, the spitting ceased and reappeared several times successively. Although the dose was from the first half an ounce of the nitre, incorporated with a syrup, the patient felt no inconvenience from it.—*Revue Medicale*.

Tartar Emetic.—M. VELPEAU, in his account of the clinical practice at the Hospital de Perfectionnement, takes notice of the opinion of the Broussaists, that a gastro-enterite always precedes or accompanies erysipelas, and that therefore the emetic plan, so much recommended by DESAUT, is the worst possible; and that only blood-letting, and emollients internally, are to be used. Now, M. Velpeau is of opinion that, although it is sometimes good practice to bleed and apply leeches where there are symptoms of congestion or internal inflammation, yet that the other plan ought by no means to be abandoned when it is indicated. He relates several cases of decided benefit from the use of Tartar Emetic, given in doses to excite vomiting.

He also relates several cases of Rheumatism, where a trial was given to the Tartar Emetic, in doses of twenty and thirty grains. His opinion of the effects of this remedy, after witnessing thirty cases of disease in which it was used, is that it in none produced the least amelioration. In one case, in private practice, there appeared to result some benefit from its use.

Mme. H. suffered severe pain in the legs for fifteen days, in consequence of fatigue, when suddenly these parts swelled and became extremely painful; the pulse was strong and very frequent.—Bleeding to ten ounces.

Next morning, all her limbs were affected; swelling and redness of skin considerable, especially near the joints. The pain was insupportable.—Sixty leeches were applied.

Third day, her sufferings were increased; the loss of blood had produced much weakness; tongue much coated. Twelve grains of Tartar Emetic were prescribed, in eight ounces of orange-flower water, to be taken by spoonfuls during twenty-four hours.

Fourth day, the patient was up and walking about her room; there remained only a feeling of being bruised in her limbs. She speedily recovered.

In some of the patients in the hospital, this remedy was sometimes carried to the extent of thirty, forty, and forty-five grains; and it must be confessed that, if it did no good, it never appeared to do any harm. The region of the stomach never became painful; the tongue remained healthy; appetite generally continued; and if, for the first day or two, nausea and looseness showed themselves, they ceased spontaneously, although the dose of the medicine was augmented. These facts, and many similar, prove at least that the destructive qualities which have been attributed to tartar emetic do not necessarily follow its exhibition even in large doses.—*Ibid.*

SURGERY.

Gonorrhœa.—Every surgeon must have occasionally lamented the obstinacy of this disease, particularly in its chronic form, when the acute symptoms have passed by; and yet the term Gleet can scarcely be correctly applied. In such cases the Copaiba and Cubebs will frequently fail when given singly, although they may prove effectual if combined. In this country it is not so customary to unite these medicines as in Germany. In the last Number of GRAFE's Journal für Chirurgie, this combination is spoken of as frequently effectual, and in confirmation we may add the result of our own experience. In two or three cases of gonorrhœa, in which the discharge was profuse, but the pain trifling, which had continued for a considerable time, the patients were rapidly cured, after having taken the copaiba and cubebs separately without any effect, by the following mixture:—*R.* Bals. Copaiv., Cubebæ, aa \mathfrak{z} ss.; Pulv. Acaciæ \mathfrak{z} iij.; Aq. Cinnam. \mathfrak{z} viij. *M.* capiat coch. tria magna quater in die.—Sir ASTLEY COOPER frequently prescribes these medicines in this form.

Mode of Stopping Epistaxis.—A young man, nineteen years of age, bled from the nose, two days, so profusely, that he fainted several times. Mineral acids, ice to the nape of the neck, &c. were tried, but without stopping the flow of blood. Dr. BRUNNER was called in on the third day, and he blew up powdered gum arabic through a quill: the hemorrhage ceased directly.—HUFELAND's Journal.

MEDICAL JURISPRUDENCE.

“Augurs, and understood *relations* have brought forth the secretest man of Blood.”

Medico-legal Report of an Exhumation made three years after the Interment.—This is an astonishing instance of precision in identifying by anatomical examination, the body of a man three years after he had been murdered. The individual was a soldier of forty-five years, living in Montpellier. A body

supposed to be his having, under suspicious circumstances, been found in a garden, it became necessary to identify it. Although nothing but the skeleton remained, it was at once ascertained to be a male from the configuration of the pelvis. The length of the bones determined the stature to be five feet five inches. Teeth and general appearance of the bones indicated the age of forty or more years. Degree of decay determined the period of inhumation to have been three years. Finally the discovery of bones indicating the existence of a sixth finger on one foot and one hand removed all doubt, because the individual had had that peculiarity.

NUGÆ.

Case of Hysteria attended with Poetic Furor.—From the Lancet.

Medical writers, of all ages, have spoken of the *Protean* nature of hysteria. Sydenham, amongst others, tell us of its "multiformis varietas," whilst some one whose name we cannot now call to mind, stigmatises this disease as a *diabolus redivivus*. It does not occur to us, however, that any author has described a case of hysteria; in which the *scriblo-mania* was a prominent symptom. There was lately, in St. Thomas's Hospital, a young woman affected with hysteria, in whom the paroxysms were invariably preceded by an irresistible propensity to write poetry. Her eye "in a fine frenzy rolled," and loudly she called for the materials, wherewithal to embody her thoughts.

We have some of the lyrics of this young Sappho now lying before us. Amongst others, is one entitled "The Physicians," and we are tempted to transcribe the four following lines:—

"Doctor Scott to all would be kind,
But keeps his patients close confin'd.
Doctor Williams is slow, not sure,—
Elliotson's plan is kill or cure."

[Undoubtedly the Editor of the Lancet is aware that the Helliconian hallucination, in nine cases of ten, is morbid, and a symptom of disease most intractable. We can think of no therapeutic method better adapted to it, than the use of small nauseating doses of tartar emetic, together with low diet (although this last is sometimes only a provocative) and occasional cold affusions.—Scarification by the London Quarterly, provided the patient can afford it, is invaluable. We would also urge the importance of the study of Conchology as well suited to call home an errant fancy, and to sooth a turbulent intellect.

In case the paroxysm be of an amatory character, what better can we do than resort to the famous prescription of Aëtius? He began with a cooling suppository of hemp-seed and bruised cucumbers, and followed with thin potations of water-lilies and purslane, to which he added a pinch of snuff of the herb Hanea.

We have recently met with a curious case of poetic raving, not less interesting than that reported in the lancet. The patient is a young medical man, who rides his pegasus with the fearlessness of desperation.—Although evidently "mad, madder than the maddest of march hares," yet there is method in his madness.

By some strange obliquity of imagination, he has got into his head, that, in California, or some place equally remote, a celebrated charlatan had procured the names of two renowned professors in recommendation of his nostrum, whereby the drug became wonderfully popular, and a source of immense wealth to its possessor.

Thus far we make out the burden of his song without difficulty. What follows, however, is composed of broken numbers, which we should not dare to translate lest we might offend the Californians, were it not obviously the fiction of a mad poet.

He goes on to sing, how the said charlatan, in gratitude, or agreeably to contract, conferred a *kind* of immortality upon the professors by publishing their engraved portraits, with his own name affixed as patron and publisher. The caption of his verses is the following quotation:—

“Quoth Hudibras the matter’s clear,
The *saints* may employ a conjuror.”

Whether said or sung, the subject matter is, no doubt, a mere cob-web of the brain; for we deem it absolutely impossible that such events should have occurred on the same continent where the University of Pennsylvania has so long diffused its liberal and salutary influence. We should as soon think that owls and bats would perch upon the sun-beams.

We might gratify our readers with extracts from the poem, but our chapter of *Nugæ* must always be brief.

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ESSAYS.

ART. I.—*Pathology and Treatment of Epistaxis.*

THE writer of this article is induced to offer a few suggestions on the above subject by the conviction that the treatment of this disease, as given by most practical authors, is often inefficient; and that, because not conducted upon just views of its pathology. No one who has often had occasion to treat this frequently perplexing malady, will deem further inquiry, in relation to it, superfluous.

It is not necessary that we should enumerate, with particularity, the remote causes which predispose to this affection; suffice it to say, they are those which produce preternatural determination of blood to the head, and which, also, exert a morbid influence upon the capillary system; in consequence of which the blood, instead of being transmitted by them, is exhaled, for it is not supposed that any breach in the vessels is the immediate cause of these hemorrhages.

No one cause is more productive of the two effects which we have named than intemperance in the use of ardent liquors, and hence epistaxis is a characteristic disease of drunkards; it often arises, however, from other causes, and not unfrequently is the result of congenital idiosyncrasy.

The worst cases of epistaxis are usually associated with a degree of febrile excitement; the pulse has a peculiarly sharp beat, characteristic of irritation rather than of repletion—is frequent, usually easily compressed, especially after the loss of considerable blood, which will generally have occurred when the physician is first called to the patient. Often there will be strong palpitations of the heart. There is almost always extreme pain in the head, the sensation being that of fullness and distension. This is generally accompanied with violent throbbings of the cerebral arteries, and the patient will often desire to have the head bound firmly with a handkerchief or bandage.

Lethargic symptoms sometimes result from the cerebral engorgement. The bowels are generally inactive, the skin dry, and the extremities pale and cold.

It is very obvious that all these symptoms are produced, proximately, by the violent rush of blood to the head, from unequal action in the vascular system. The same cause often produces apoplexy, paralysis and epilepsy; hence epistaxis will often be found symptomatic of these diseases. Indeed, it is a highly important circumstance in the history of this disease, and the knowledge of which is essential to its correct treatment, that it often bears a vicarious relation to those maladies. The copious effusion of blood from the nose is sometimes the remedy which nature effectually employs to relieve the cerebral engorgement. If, then, the practitioner, without premising remedies to equalize vascular excitement and to relieve the head, suppresses at once, by plugging, or by astringent lotions, the flow of blood from the nose, fatal disease will, and very often does, result. I have known apoplexy to supervene under such circumstances, and also epileptic convulsions.

The degree of determination to the head, and the pain and throbbing in that organ, will often be found to increase in this disease, in proportion to the quantity of blood lost by the patient. This is a pathological fact of essential importance, and is founded on a principle of very general bearing.

It has been observed by Dr. Marshall Hall, and his observation is abundantly confirmed by that of others, that when the

vascular system has lost, by hemorrhage, a considerable volume of its circulating contents, the heart begins to beat convulsively, producing a sharp and quick pulse and a remarkable determination of blood to the head, with violent and obvious pulsations of the carotid arteries, and a painful sensation of throbbing in the head, often leading the practitioner to believe that there is incipient inflammation of the meninges of the brain, and seducing him into a mode of treatment (venesection) which, although it gives temporary and deceitful alleviation, invariably provokes the disease.

That the abstraction of blood, which we have been always accustomed to regard as our most effectual means of tranquillising vascular excitement, should almost invariably, when carried to this extreme, produce the opposite effect, seems indeed paradoxical. Dr. Hall does not explain the phenomena upon physiological principles. We cannot, indeed, in this case, explain the essential relation of cause and effect, but it appears to me that the final cause, or the reason why nature resorts to this peculiar action, is not very difficult of solution.

When the volume of blood necessary to the healthy performance of the vital functions is considerably diminished, the first effect from abstraction of accustomed stimulus, is a diminution of action. But soon the different organs, and especially those, the functions of which immediately depend on an uninterrupted circulation of blood, begin to experience inconvenience from its deficiency; intelligence of this is communicated to the heart through the medium of the nerves. In a way which we do not presume to explain, this organ is then excited to an action increased above the natural, in a degree necessary to make up for the loss of volume in the mass of circulating blood. In order that the organs may receive their uniform supply, it is obviously necessary that the blood should go the round of the circulation more rapidly, and therefore the heart beats with increased energy and frequency, as is obvious from the pulse.

But how is it that the blood should be especially determined to the brain? The final cause is sufficiently obvious. The brain, of all other organs, is that to which the presence of blood is most

essential, in regard to the exercise of its functions. The moment that blood is withheld from the brain, (as in deliquium) its functions are suspended. Indeed there is no organ in the animal œconomy to which the circulation is so perpetually necessary. It seems not only to stimulate the sensorium to the exercise of its vital influences, but probably, from its peculiar constitution, it yields something which is necessary to the generation of nervous power. So necessary does the continued circulation of blood in the brain appear to Dr Clutterbuck, that he accounts for the phenomena of apoplexy, not by lesion of the cerebral structure, but by the exclusion of artificial blood, effected by the immediate cause of the disease. Hence it is that the brain most imperiously demands its supply of blood; and the circulatory organs, withholding it from other parts, (for the extremities and skin become pale) the functions of which may be, for a time, suspended, determine it in quantity to this organ.

How it is that an organ, whether in a morbid or healthy condition, can thus attract into itself a preternatural proportion of blood, I cannot explain. It is sufficient that such is the fact, as is every day proved by the phenomena of inflammation, in which the local circulation of a part becomes hurried, although it is no more influenced by the vis-a-tergo of the heart than every other. The capillaries undoubtedly exert an influence peculiar to themselves, and in some way, the mechanism of which is difficult of explanation, solicit to themselves the current of blood.

When the preternatural rush of blood to the head occurs in epistaxis, by loss of blood, it is very obvious that the effect must re-act upon the disease, and the very effort which nature makes to supply the brain will be the cause of further effusion. The convulsive action of the heart, also, and the sharp beat of the pulse, often deceive the practitioner into the belief that depletion is necessary, when in fact it is the very cause of the symptoms which we would subdue.

What then are the indications which the above condition of the system suggests? It appears to me that one of the most important is to equalize the vascular excitement of the system,

and to effect such a counter-determination of blood as shall relieve the head. I will not say that it is always improper to abstract blood in cases of this kind; indeed, in particular cases, plethora may be the cause which has produced the effusion that has finally resulted in the phenomena which we have enumerated. In all cases where, on the practitioner being called, the pulse is hard and not easily compressed, as well as quick and frequent, venesection is certainly indispensable. Such cases, however, are not often alarming, as nature generally effects her own relief.

In those cases, however, in which that condition of the system results which I have particularly described, an equilibrium of action is to be restored—1st, By the use of such counter-irritants, or local excitants, as shall invite the circulation into parts remote from the head. The means employed should be such as are calculated to produce but little general excitement in the system. I have observed that in extreme cases the extremities are generally pale and bloodless, and that the *surface* generally is in a similar state. An obvious indication, therefore, is to cherish the circulation in these parts. This is to be accomplished by the application of a moderate degree of warmth; by the use of friction, and the irritation of cantharides, applied in the form of diluted tincture; by the immersion of the lower extremities in a warm bath impregnated with muriate of soda. Blisters may powerfully aid in accomplishing the same indication. I have practised their application to the back of the neck, as well as to the extremities.

From the beneficial effects which have attended these remedies, I have been led to query whether, upon the same principle, the application of numerous dry cups to various parts of the surface might not be attended with marked advantage.

2d, We should endeavour by all means possible to repel the blood from the head, both by the use of cold applications, an elevated posture, &c. and by the use of those remedies which are calculated to diminish vascular excitement in the brain. Among the latter digitalis seems to be particularly appropriate. The influence of this article in bridling vascular excitement in the

head is its principle characteristic. I have employed it with decided advantage in extreme cases of epistaxis. It has often been recommended in other hemorrhages, but certainly is peculiarly adapted to the disease in question. It should be exhibited either in the form of tincture or infusion. If the former is employed, it may be given in doses of twenty or thirty drops once in three hours until some obvious effect is produced, such as glimmering of the sight, giddiness, dilatation of the pupils, &c. If the case be urgent, a still larger quantity, even a drachm, may be at once given.

3d, In furtherance of the general object, a soluble state of the bowels is necessary. This is not only indispensable to harmony of action in the system, but we may often by proper aperients remove a source of gastric irritation, which, sometimes, is one in the chain of causes resulting in this affection. A proper excitement of those organs also solicits towards them a due proportion of the circulating fluids, and assists to effect the desired revulsion from the head.

Opium I have known to be used by a distinguished practitioner, with unequivocal advantage, in many cases of this disease. It would at first appear that the general excitement produced by this article, and especially the cerebral determination frequently ascribed to it, should contra-indicate its employment. But it is to be recollected that one of the most invariable effects of opium is to diffuse vascular action, and equalise the action of the capillaries. Indeed no remedy seems to have a more decided effect in promoting the transmission of blood from the capillary arteries to the capillary veins, a defect in which is undoubtedly often the most important part of the disease which we are discussing. The practitioner to whom I allude, almost invariably employs it in other cases of hemorrhagic diathesis, after nature or art has effected a sufficient degree of depletion. The effects of the remedy in uterine hemorrhages are familiar to every one; but I think there is yet wanting some general therapeutic principle which shall give precision to the use of this remedy. At all events, however, I would recommend that its employment in epistaxis be associated with a vigorous use of

the means which I have already recommended for the purpose of relieving cerebral engorgement, and diffusing the circulation.

There may occur a particular case of epistaxis, in which opium may be especially indicated, not on account of its general influence on the vascular system, but because of its relieving some local irritation.

I would by no means forbid the use of local applications, which are so generally employed in this disease. I believe, however, that in the alarming variety of this disease, they are rendered effectual only by the previous use of the means which I have indicated. The plugging of the nostrils cannot be regarded as a safe remedy until the system is prepared for it, and I believe that it is very rarely a means of saving life.

The application of cold to the surface of the body in the manner frequently practiced is undoubtedly often injurious. When so generally applied to the upper part of the body, as to check the cutaneous circulation, it must increase cerebral engorgement.

I have sometimes, on visiting a patient, reduced extremely low by this disease, found the whole surface of the body and the extremities perfectly chilled, and in consequence, exanguious. I have seen the happiest effects, under such circumstances, result from immediately placing him in a warm bed, using warm applications and frictions to the surface, and indeed the several means which I have mentioned above for the purpose of promoting cutaneous circulation. There are instances, indeed, in which complete immersion in cold water has suppressed obstinate cases of nasal hemorrhage. This, however, I ascribe to the general influence which it exerts upon the vascular system.*

The principles of practice developed in the above, I have lately had an opportunity to test in a case of considerable interest. I cannot without prolixity report it entire, but will be sufficiently particular for illustration. The patient was an individual of thirty-five years. He had been addicted to the intemperate use of ardent liquors, and his system exhibited the ravages of

* See case reported in the Philadelphia Medical and Physical Journal.

the poison. He had been for twenty-four hours or more under the care of an intelligent physician, who had employed the means usual in such cases. At this time, however, there was nothing particularly alarming in the case, and the physician, obeying other urgent calls, had not seen him for a considerable time previous to my being sent for, which was not till the exhaustion of the patient had become alarming. The attending physician had been sent for, but could not be obtained. On my visiting the patient he was still bleeding freely; the blood, however, did not issue from his nose. but as he lay in his bed, upon his back, flowed into the stomach. His pulse was frequent, quick and convulsive. There was painful throbbing, and a sensation, fullness and distension in the head;—the face exhibited the leuco-phlegmatic aspect so common with drunkards;—the extremities were pale and cold, and the skin generally was exanguious. The bowels were torpid, and there existed an extreme irritability of the stomach, which, however, was adventitious, being merely produced by the swallowing of great quantities of blood. He vomited coagula of blood as often as once an hour.

During the previous night he had been at times delirious, and during the day exceedingly irritable and restless, which rendered it difficult to keep him quiet in bed.

I immediately directed that a pediluvium should be prepared, in which a quantity of common salt was dissolved. I directed the extremities and surface generally to be bathed with warm brandy, to which was added one-fourth part of the tincture of cantharides.

Tinct. Digit. Purp. gtts xxx was directed to be given once in two hours, till the hemorrhage should cease, or till I again saw the patient. An enema, in which common salt was the principal ingredient, was directed to be immediately administered. His food to be farinacious, although his stomach at that time would retain nothing.

On visiting the patient at the end of eight hours, I found that the hemorrhage had ceased. The patient expressed himself as having been greatly relieved by the bathing of the extremities, and by the warm frictions. He had also had a motion from the

bowels which was chiefly blood; could as yet take no food; had frequent retching; had been at times slightly delirious. Directed the enema to be repeated, the frictions to be continued, and a blister to be applied to the back of the neck, as he complained yet of pain in the head and throbbing, though it was much diminished. The digitalis was directed to be resumed, in case the bleeding should recur.

In twelve hours from this I was sent for in haste, and found that in consequence of efforts to vomit, he had bled a little, but it had soon ceased spontaneously. The stomach seemed remarkably debilitated and irritable. I directed an infusion of quassia to be given in table-spoonful doses, once an hour. As soon as the stomach was quieted, a gentle aperient was administered, after which there was no recurrence of vomiting. The symptoms gradually abated, and medical attendance become no longer necessary.

Opium was not employed in this case, on account of an idiosyncrasy.

ART. II.—*Remarks on the Influence exerted by the Exercise of the Intellectual Faculties on the Organization of the Brain.*
By the Editor.

Continued from page 66.

IF the physical traits of particular races of men are liable to become, in a series of generations, modified through the operation of natural causes, or by the interference of art, it necessarily follows that our intellectual powers must be qualified in a corresponding manner; since we have adduced abundant evidence that the character of the latter is, in a degree, dependent upon organization.

In relation to this point, also, we appeal to the common observation of mankind, although, indeed, it is difficult to employ, with logical method and precision, facts which are so numerous and equivocal.

In some way it has certainly come to be the common prejudice

of a great part of the community, that the intellectual qualities of a father are *very often* inherited by the son. There are many proverbial expressions in common use, which prove the existence of such an involuntary conviction. When a child differs remarkably in intellectual character from his progenitor, it always elicits, from an observer, an expression of surprise. That this is frequently the fact, however, cannot be denied, and although our proposition be in the main true, there are obvious reasons why there should exist exceptions. Accidental varieties in regard to complexion, size, &c. often occur in the same family, for which no adequate cause can be given, and yet it is generally true, that, in these respects, children are like their parents. The intellectual character of both parents must be taken into consideration; and error often arises from our not taking into account that of the mother, which perhaps may never have been so developed as to exhibit its native powers.

Were the intellectual similarity of parent to child accidental, it should occur much less frequently than it actually does.—That kind of talent which distinguishes a man above his fellows is, of course, rare, and the chance, therefore, (granting it to be fortuitous) that an individual distinguished for genius shall be succeeded by one equally pre-eminent, is exceedingly small, and yet we not only often witness the transmission of nature's gift, but as I have observed, we express involuntary surprise when there is manifest no mental resemblance.

That the third generation should be accidentally like the first and the second, is extremely improbable. But we are often able to trace an intellectual trait through many generations. History furnishes us with pertinent facts. Philip and Alexander were the most extraordinary men of their respective ages. The line of the Bajazets was a climax of great minds. The family of President Edwards in N. E. furnish a remarkable instance of the hereditability of talent.

President Edwards, President Dwight, the late Judge Edwards, and several other highly gifted individuals, both male and female, were members of that family.

If it be asked why this progressive improvement is finally in-

interrupted, in addition to the circumstances which I have already mentioned, I would observe that wealth and power, which intellectual superiority usually beget, are adverse to the exercise and improvement of the mental faculties, and thus there takes place a necessary re-action, which tends to preserve the equilibrium of society.

An important argument in favour of the progressive improvement or deterioration of the intellectual character of different races of men, corresponding to the circumstances which favor or oppose moral cultivation, is the present relative condition and mental character of the several races of mankind.

I believe it is no longer doubted that the several varieties of our species are the progeny of the same original stock; but I believe that almost all of those even, who advocate this position, admit that, at the present time, there exists a surprising diversity in physical constitution and in intellectual power. Some who are not physiologists, may be reluctant to admit this position, and may ascribe the moral degradation of, for instance, the negro variety, to the accidental circumstances which deprive the present generation of the means of mental cultivation.

We have already shown the brain to be an organ necessary to thought, and have demonstrated the correspondence between its development and the character of the thinking faculties. It would be begging the question, however, to declare the negro variety inferior, from the mere fact that it has a less perfectly developed brain. Yet the analogies which we have drawn from the comparison of other animals with man, and the pathological circumstances that we have adduced, by which to determine the function of the brain to be intellectual, will bear upon this part of our subject, and sanction the inference that the negro must be endowed with an intellect less vigorous than that of the European, because the organ of which it is the function is less so.

It is commonly asserted, that the peculiarities of color and physiognomy, which have the influence of a natural stigma, degrading the African below the level of his fellows, and precluding the advantages of intellectual cultivation, are the only and sufficient causes why that unhappy race manifest comparative

mental imbecility. These circumstances do undoubtedly exert directly a powerful influence, and also produce a paralysing consciousness of hopeless degradation, which renders them insusceptible of a generous emulation. But let us inquire, what has rendered the peculiarity of color and physiognomy in the African variety a reproach? It must obviously be one or the other of the following circumstances:—It must either be because we have always observed them to be associated with inferior mental endowments, and because we unconsciously regard them as the index of stupidity; or the complexion, form and face of the negro are less agreeable to our natural taste, or our intuitive perception of comparative excellence in the works of the Creator, and hence they become in our minds characteristic of a less perfect being.

Now in neither case which we have supposed, can peculiarity of color and form be regarded as the first cause of inferior intellectual development. In the first, it is obvious that these physical peculiarities could not have been a reproach, until they had long been observed to accompany inferior capacity. Negroes must have become a degraded people before their color became a disgrace.

On the second supposition, that their form and color is to our natural discernment a mark of inferiority, these traits cannot be regarded as the cause of mental depression, but merely as the associate of it, and the natural index of an inferior being.

It is true, indeed, that a physical and obvious deterioration having accompanied their intellectual degradation, it becomes difficult, as they are associated with whites, to call forth even such natural powers as they do possess, since that kind of exertion which produces the highest degree of intellectual vigor, is never the result of our contemplating an unattainable object. Hope of success must be an actuating principle.

We may appeal to the whole history of the negro race, from the earliest times to the present, for abundant proof that their intellectual character has always corresponded to their physical organization; and that in both respects they have, from the earliest times, been esteemed the lowest variety of our species.

It is equally certain, though not so obviously true, that there are other races of men endowed with different degrees of intellectual power. Indeed, the fact that there exists one variety remarkably inferior to the European or Caucasian, in natural capacity, renders it quite certain that the relative power and influence which each other variety possesses, and the respectability which they assert for themselves, is correspondent, for the most part, to their intellectual educability.

How then is this diversity of natural capacity in our species to be accounted for, if, as is generally believed, the several varieties are derived from a common stock? It may be said that it is the result of accident. This merely means, however, that it is the result of natural causes, the operation of which we cannot discern. We have seen that the continued operation of certain causes modify the instincts of certain animals, and always adapt them to existing circumstances. We have reason to believe, therefore, that the modifications which take place in the intellectual character of man result, not fortuitously, but from a uniform law of nature.

Accident may, indeed, locate a number of individuals in a part of the world where the earth spontaneously produces whatever may be necessary to their sustenance, where the climate also may be such as never to exercise the intellect in providing against a season of scarcity, nor to protect the body against the vicissitudes of temperature. These causes may be presumed, then, to have the same influence on the character of the human intellect, which we have observed to be exerted, by corresponding ones, on the natural instincts of animals.

On the other hand, if a variety of our species be so circumstanced as to render necessary the perpetual exercise of those faculties which nature has bestowed upon us for the supply of our numerous and varied wants, it is obvious, from the above analogy, that they must become perfected. The gift of nature which qualifies us to supply these wants, in every region and climate, is sovereign intellect—"Τοις ἀνθρώποις φρονημα."

Mankind, therefore, in different situations, necessarily exercising, in different degrees, their intellectual powers, must con-

sequently be made to differ in regard to the development of these powers, and in regard to the organization on which they depend. Human intellect has exhibited its most exalted character in those regions where there existed the greatest number of those circumstances which most imperiously demand the exercise of its powers. The small states of Greece occupied a soil by no means comparatively fertile, and a climate not the most mild. It was necessary for them perpetually to contend against their physical wants. In addition to these circumstances, they were cut up into small tribes, between which there existed perpetual jealousy and frequent hostilities. Their sagacity was continually exercised in devising means for their sustenance and security. The superiority of intellect, for which they were distinguished above their cotemporaries, may certainly be, in part, ascribed to the above circumstances.

To precisely opposite causes are we, in part, to ascribe the mental imbecility which is characteristic of those who live under a despotic government, and whose security depends, not upon the exercise of their own intellect and address, but upon their obeying the dictates of a master.

This view of the subject enables us to explain, in the most satisfactory manner, the existence of so many shades of intellectual character in the several varieties of our species. The faculties of mind which qualify the American savage to roam the forest, and to win his precarious sustenance by subtle artifice, or by fearless exposure, should certainly be very different from those which are necessary to an individual of a civilized community, and very different from those which are sufficient for the Negro and the Hottentot, who, in appropriating to themselves the spontaneous productions of nature, exercise scarcely any other faculty than the instincts which are common to man and to brutes. The aborigines of this country seem evidently to possess natural qualities dependent on their organization, which fit them for the forest. They exhibit, even when taken from the forest in infancy, a character, the features of which no cultivation can in one generation efface. Neither their bodies nor their minds seem fitted for civilized life. Although dis-

playing great vigor in the chase, they are incapable both of patient labor and of intellectual application. In the midst of the plenty which civilized life affords, they sigh for their native wilds, and seem prompted by their instincts, like the young partridge which is hatched beneath a domestic bird, to seek their safety and their sustenance in the forest, for which nature has designed them. A long series of generations succeeding each other in this wild state, appears to have had the same influence on their organization and their instincts, in adapting them to their peculiar circumstances, as they are observed to have upon other races of animals. Hence, undoubtedly, arises the principle obstacle which has so often defeated the efforts of the philanthropists to reclaim them from their savage state to social life, and the civil and religious benefits which are founded upon it.

The writer of this article, many years since, knew an Indian lad, of the tribe of St. Francis, in Canada. At the age of six years he was brought to Dartmouth, in New Hampshire, to be educated by the bounty of a missionary society. He soon acquired, by constant intercourse with other children, a practical knowledge of English, forgot entirely his own tongue, and in every thing but native disposition seemed to be assimilated to those around him.

The peculiar traits of savage character, however, were never obscured. He endured with impatience the discipline of school; was of a sullen temper, fond of solitude, took but little interest in literary pursuits, and spent a great part of his time in the fields. He remained at Hanover until the commencement of the late war, when, at the age, I think, of fifteen, he returned to his people. Three years since I was much surprised at meeting, on the western shore of Lake Champlain, this very individual. He was then with a part of his tribe on a hunting expedition, and had a temporary encampment near where I met him. In all respects he was completely savage as any of his tribe, nor did he manifest the least regret at having abandoned the comforts of civilized life.

I think we may infer from what I have adduced in reference to this subject, that the different races of men have been made

to vary in organization, and correspondingly in intellectual endowments, by the different degrees of mental exercise by which they may have been fortuitously influenced, and that the most perfect are rendered so by moral cultivation continued through a series of generations.

An interesting question here arises as to the comparative degree of development and energy which cultivation may bestow upon the cerebral organs, consistently with the harmony of the other functions. Is there a limit fixed by the constitution and relations of our organs, beyond which no one apparatus can by cultivation, be made to predominate over others, without impairing the general result of the action of all those which make up the system, and which general result is health? Undoubtedly there is such a limit; to which, however, very few individuals have attained. On this subject Broussais has the following observations:—"Intellectual labors give rise, in early life, to effects corresponding with the actual state of the individual constitution. Thus the brain, the growth of which is not complete, acquires by the exercise of thought an extraordinary energy and volume; the moral faculties become truly prodigious; but this advantage is sadly compensated by the cerebral inflammations, which give rise to hydrocephalus, and by a languor in the rest of the body, the development of which remains imperfect. The muscles are slender and weak—the chest narrow—the abdomen large—the mucous membrane of the stomach perpetually irritated—the skin without energy and always pale, since study necessitates seclusion in places sheltered from too vivid a light. The inconveniences arising from a want of exercise are, therefore, united to those which result from a super-excitement of the brain and its dependencies. It is easy to conceive what a number of evils must result from a kind of life so little in harmony with the wants of youth; hence we rarely see all those prodigies of premature intellectual education prospering."

If we have thus far succeeded in substantiating what we had proposed, it follows that the intellectual character of mankind should, on the whole, be improving. We believe this to be the fact, and it certainly is one of the most interesting considera-

tions to which the investigation of this subject leads. We are aware that, against our assertion, many will be eager to adduce the long catalogue of ancient worthies—the moralists, the unrivalled orators, the matchless poets, and the statuary of antiquity. Let it be considered, however, that those subjects which exercised the childhood of the human mind, and which developed its juvenile fancy, were not, for the most part, those which exercise the highest qualities of our moral nature. The ancients were particularly distinguished in the cultivation of the fine arts, success in which certainly requires a mind differently constituted from that which searches out the mysteries of nature in employing the precision of the Baconian philosophy. The condition of the human mind, the character of the then existing language, and the eventful progress of society in its infancy, are all circumstances which conspire to exercise the human fancy.

Let him, however, who would ascertain the comparative prowess of the human intellect in the early ages of the world, and at the present period, compare the ancient with the modern philosophy, for it is this which is the true test of intellectual energy. The speculations of the ancients on the *Constitution of Nature* are as wide of the true and exclusive principles of correct inductive reasoning, as the fancies of childhood from the reflections of age. The single principle of synthetic reasoning, established by Boyle and Bacon, is worth all the splendid illusions of antiquity.

The present moral and political condition of the human family is also evidence, not only of the accumulation of knowledge, but of the growth of intellect.

In comparing the ancients with the moderns, we must also bear in mind that the intellectual character of the first belonged only to a comparatively small portion of the human family, while in our times it is common to many nations.

I would not assert, however, that the progression is uniform and uninterrupted. Indeed it is very obvious that, before the discovery of the art of printing, and when the educated part of the community was small, the transmission and accumulation of this acquired excellence must have been more rare. There

are also sufficient reasons why, at the present time, the progressive improvement does not continue in particular families until the cerebral organs attain to their utmost degree of healthy development. The mind always requires some powerful incentive to prompt it to the necessary exercise, and the moment that this is withheld, our faculties are in a degree palsied, and a retrogression takes place. Now, pre-eminent talent and learning usually procure to their possessor wealth and power. These almost invariably foster indolence, especially in those who inherit them.

The founders of royal dynasties have almost always been those whose extraordinary abilities have procured for them an ascendancy over their fellows. After a few generations, however, they have become enervated by the enjoyment of luxury and power, and have relapsed, in some *illustrious* lines, almost to fatuity. I believe that those privileged orders, on whom are entailed the curse of inherited wealth and *legitimate* power, will be admitted to exhibit, comparatively, but few instances of either native talent, or acquired learning. I would beg pardon of the crowned heads for the freedom which I have used, did I suppose that the offence or the apology would ever reach them. On this side of the water, however, we must be permitted the occasional use of them "to point a moral or *adorn* an *essay*."

Lord Monboddo, as it is well known, seriously maintained that the human family are but a gradually improved race of monkies. However this may be, the converse of the proposition of the noble lord is like to be proved in the persons of his own compeers. If men were once monkies, may they not relapse into that form? and will not the elegant appendage of a tail become fashionable, by being the natural ornament of that ancient and honorable stock on whom are *entailed* indolence and luxury, which render necessary the exercise of no other faculty than such instinct as belongs also to the quadruped race.

If the free exercise of thought, prompted by the existence of wants which the exercise of intellect alone can supply, be the means of exalting the intellectual capacity of our race, it is obvious that this amelioration must take place most remarkably

where thought is unshackled by political or religious tyranny. A large portion of the subjects of despotism do not live as intellectual beings. Their relations to each other and to their rulers are not intellectual. They are subdued by physical power, and they obey from the physical instincts of fear and want. It is only when we are free and equal that the characteristic attribute of man is brought fully into exercise. His relations to his fellows then become rational. The perpetual exercise of his thinking faculties becomes necessary for supplying his wants. Although his occupation be physical labour, yet he is left to the choice of it, and he exercises, with interest, his judgment in regard to it. In the appropriation of the avails of it, his rational faculties are brought into play. He does not, as does the serf of the soil, barter his freedom of thought and will for mere exemption from the cares and solitudes of life. Unless actuated by the latter, the noblest principles of his nature remain dormant, and the organs of which they are, in a degree, the office, deteriorate in their relative development.

The despotism of superstition is not less paralysing in its influence on the human mind than political tyranny. It precludes all freedom of thought, and a servile fear becomes the only actuating principle. The free exercise of thought, however, on the exalted truths of natural and revealed religion, is an intellectual exercise of the highest character, and contributes more than any other circumstance to sublimiate the human mind. Wherever man is free in thought as well as in deed, it cannot but employ his rational powers with the deepest interest. The character of Deity as displayed in his word and in his works, and the asserted immortality of our immaterial principles, are subjects which cannot but exercise with the utmost intensity all our rational powers. Man cannot long remain rude or ignorant, if these subjects be correctly presented to his mind,

It will, of course, be inferred from what we have said, that we believe the different races of men to be, at the present time, unequally susceptible of intellectual refinement, because of the unequal development of their intellectual organs. The view which we take of the subject, however, would by no means discourage

the efforts of the philanthropist to improve the condition of those who are sunk in present moral and physical degradation. Indeed it obviates in the most satisfactory manner the objections which are made against these humane attempts, from the notoriously imperfect success of many efforts of this kind.

It has been found impossible, for instance, to engraft, at once, upon the wild nature of our western savages, the civil and religious improvement which belongs to a cultivated people. Many have inferred from this, that they are susceptible of no intellectual improvement, and were never designed for the enjoyment of civilized life; that they are in fact a distinct race. We assert that they are our degenerate brethren, and that by judicious cultivation their condition may be, from generation to generation, improved. The condition of the negro race is similar, they being not a link between men and monkeys, but a variety of our own species, and susceptible of attaining to the same perfection of organization which now distinguishes the European.

A practical inference may be drawn from our principles relative to the education of children. It is obviously when the brain is forming that its organization is especially susceptible of modification. The minds of children, therefore, should be exercised early. Nor, as is too customary, should the faculty of memory be alone cultivated; the reasoning faculties should be employed on such subjects as are adapted to the comprehension of children.

ADVERSARIA.

ART. I.—*On the Uses and Abuses of the Tartrate of Antimony; with Remarks on the employment of a compound of Ipecac. and Calomel as a substitute for that article.*

LEST the earnestness with which, in our last number, we deprecated the too general employment of the tartrate of antimony should be misconceived, we more explicitly state that, in some forms of disease, it is a remedy of unequalled efficacy. The general indications which demand its use were stated. We did not deem it necessary to particularise diseases, nor to specify doses and modes of exhibition. We would not encumber our pages with that which the sagacity of every intelligent reader will at once supply.

We observed that the remedy would be singularly useful in those cases of synochal fever in which there was local excitement, seated in other parts than the mucous membranes, and especially in the serous membranes, in which case the medicine will prove salutary, not merely by its general febrifuge virtues, but also by the powerful revulsive impression which it makes upon the mucous membranes. This principle is well illustrated in the practice of Cartwright, found so successful in the bilious pneumonia occurring in the southern districts of our country.— This article was employed by him with surprising advantage, even in cases in which the violence of the disease appeared to have nearly overwhelmed the powers of life.

The beneficial result was undoubtedly to be, in part, accounted for by the evacuant effects of the remedy, and the change effected in the secretions.

In those diseases, however, in which the use of tartrate of anti-

mony is equivocal and hazardous, but in which an analogous remedy is indicated, it becomes necessary that we should select some article, or compound, exercising most of the virtues of this substance, but less violent in its effects. Now we believe that in most of those cases in which evacuant and febrifuge medicines are indicated, but in which the practitioner is fearful of the injurious effects of tartar emetic, a compound of the submuriate of mercury and ipecac. will be found a safe and efficacious substitute. That part of the indication which relates to the evacuation of the stomach is answered by the ipecac. it being rendered much more effectual, in this respect, by the article associated, which of itself generally produces a degree of nausea, and sometimes bilious vomiting. In influencing the secretions, and especially those of the glandular viscera, the latter article is certainly superior to the tartrate, and it makes a not less powerful impression on the digestive organs. The liver is more especially influenced by it. The purgative effect more certainly attends the exhibition of the compound than of the article for which it is substituted; and the stools produced are not of that watery and colliquative kind which result from the irritation that the tartrate excites in the mucous membranes.

The cathartic effects of ipecac. and calomel are never exhausting; for the glandular secretions, which are augmented by them, are the natural stimuli of the intestines.

In two respects, however, the compound is inferior. We have observed that the tartrate is often beneficial by the powerful impression which it makes upon the mucous surfaces, thereby sometimes subverting diseased action in them, or producing a revulsion which relieves disease seated in some other tissues. It is also unique in its febrifuge effects. The compound, therefore, is not to be employed for these indications.

The less irritating effects of the compound upon the mucous membranes less frequently contra-indicate its use. Notwithstanding the contrary opinion of the Broussaïans, calomel, as well as ipecac. may be employed with salutary effects, even in those cases in which the mucous membranes are morbidly irritable or inflamed. For proof of this no unbiassed practitioner

will demand authority; experience every day proves it. The medical student, in relation to this principle, may consult the writings of Armstrong, Johnson, &c. &c.

In those incipient febrile affections, therefore, in which there is reason, from præcordial tenderness, or other cause, to suspect any degree of gastric irritation, forbidding the use of tartar emetic, the compound may be administered with assurance of its beneficial effects, and without the hazard of confirming an incipient irritation, and perhaps creating a continued disease of that which nature undisturbed might have overcome.

In all persons of habitual irritability of the stomach and bowels, whatever may be the disease which requires the exhibition of an emetico-cathartic, the compound is to be preferred as safer than the tartar emetic, and as more effectual than most other substitutes.

In croup, I am satisfied, from personal experience, that it is a remedy of more general utility than tartar emetic, although the latter is undoubtedly an appropriate remedy in those cases in which there is high vascular excitement. Even in these, however, an alarming prostration sometimes supervenes. Another circumstance, which diminishes the utility of tartar emetic, is the local irritation which I have observed it to excite in the mucous membrane of the fauces.

As many indications are certainly answered by the use of the compound, as by tartar emetic, even in inflammatory croup. Calomel is of itself a remedy of primary value in this disease, and we well know, that when we can succeed in procuring, by its use, copious hepatic secretions, the disease is almost always overcome. When it is conjoined with ipecac. there are added to these effects nearly all those of the antimonial remedy, and which are free expectoration and diaphoresis.

For several years past I have been in the practice of premising calomel and ipecac. in diseases of this nature, and I have found it to produce more than all the beneficial effects of the tartrate of antimony, and I have never known it to produce the alarming effects of the latter, which first induced me to employ the substitute.

There is nothing which may with more propriety than these articles be employed in those cases of recent disease, in which irritation of the stomach and intestinal canal is produced by acrid ingesta. They evacuate those matters, both from the stomach and intestines, and do not aggravate the irritation already existing, as the tartrate of antimony sometimes does under similar circumstances.

ART. II.—*Reduction of a Shoulder which had been dislocated seven months.*

PROFESSOR SMITH of New Haven has recently effected the reduction of a dislocated humerus seven yearly months after the occurrence of the injury. The patient was a young woman.

In this case no pullies, nor any means whatever, were employed to multiply mechanically the extending force exerted upon the limb. Moderate extension was effected, and the usual motions impressed upon the extremity of the bone caused its head to glide into its socket.

Reduction of a Femur which had been dislocated for three months.

Dr. Morris, of Ohio, has recently furnished Dr. Smith of New Haven with the statement of a case, in which, without employing any other mechanical means than the hands of assistants, the reduction of a dislocated femur was effected, after it had been for three months displaced.

There are very few, if any, cases on record, in which the use of pullies has accomplished more than did the unassisted art of the surgeon in the above. We believe it will ultimately be admitted by all scientific surgeons, that force contributes infinitely less to the reduction of dislocated bones than that kind of art which is founded on a correct and minute knowledge of the anatomy and mechanism of the joint, and on a dexterous employment of manual force. By using the bone itself as a lever, the centre of motion being the point where the resisting muscles are inserted, a very great power can be exerted on the head of

the bone, and of that kind which is adapted to the necessity of the case; for the head of the bone will be approximated to the socket at the same instant that the muscles are extended.

When the pullies are employed it is obviously impossible that, during their action, the direction of the force can be varied, or the position of the limb in the least changed. But we know that the position of the limb *ought* to vary with every degree of extension, and that the head of the bone should be suffered to obey the configuration of the parts, and the action of those muscles, which greatly assist in approximating the head to the socket.— In the hands of assistants the direction of extension can be varied in a manner suited to these circumstances, and as much force can be applied as is safe or proper. The last motion, which slips the head of the bone into its place, is almost always exerted by the muscles, and the assistants generally feel a sudden jar of the limb at the instant of its reduction. To this effort of the muscles the elastic force of manual extension will yield, and suffer the limb to obey the natural effort. The pullies, on the contrary, exert an inelastic force which will not yield, and the above advantage is in a great degree lost.

In a great many instances on record, *accident* has reduced dislocated bones as it has dislocated them. This has frequently occurred in dislocations of the femur. The force which, in these cases, draws the head into the cup, is evidently that of the muscles, which, in consequence of a favorable flexion of the limb, are made to act in the most advantageous manner.

Several cases have occurred in the hands of distinguished surgeons, in which, after the most powerful efforts with the pullies and with hands, the bone has been accidentally replaced by the hands of the surgeon alone, when moving the limb in various directions to ascertain its position, or to overcome a fancied resistance in the capsular ligament. An accident of this kind occurred in the hands of a surgeon of pre-eminent skill and reputation in this city. These *accidents* should be studied with the utmost care. They certainly indicate the true means of effecting these reductions. If employed understandingly they would, with precision and uniformity, produce those results

which have been fortuitous. There is a great fault in our surgery when accident accomplishes more than art.

We are preparing an article of some length on this subject for a future number, and we hope that those who differ from us in sentiment will direct their attention to the matter.

N. R. S.

ART. III.—*A convenient mode of reducing certain dislocations of the humerus.*

OUR distinguished friend, Dr. Belville of Trenton, communicated to us verbally, a few days since, a case of dislocation of the shoulder, in which he effected the reduction in the following ingenious manner:—

The patient was intoxicated and very refractory, which made it extremely difficult to effect the reduction in the usual position. It occurred to the Dr. therefore, to place him upon the sound side on the floor, and to effect counter-extension and the confinement of the patient at the same time, by passing a folded sheet beneath the dislocated shoulder, and directing an assistant to stand on it, on each side of the patient, so as to confine him to the floor. The surgeon then grasping the wrist, made extension upwards, which can be done in that position with peculiar advantage, since we can *lift* with more power than we can pull horizontally. Counter-extension being made upon the scapula, by the hand of an assistant, and the usual flexions impressed upon the bone, it was without difficulty reduced to its place.

ANALYTICAL REVIEWS.

ART. I.—*A Treatise on Physiology, applied to Pathology.* By J. V. BROUSSAIS, M. D. Translated from the French, by John Bell, M. D. and R. La Roche, M. D. Philadelphia.

Concluded from page 97.

PART II. CHAPTER I.—*Organic Functions.*—The organic functions are those offices, relative to life, which are performed by the internal organs which have no immediate reciprocation with external objects, as do the senses and the brain. The internal organs, however, communicate with each other, and with the brain, through the medium of nerves.

The author divides these intra-individual functions into, 1st, those circulatory and other movements which depend on contractility; and, 2d, those changes in the fluids which result from vital chemistry. They are considered separately in treating of each function.

CHAPTER II.—*Nerves of the Organic Functions.*—It is not necessary to analyse our author's description of this system.—That what follows may be the better understood, however, let it be recollected that the ganglionic cords are divided into three series. The first are connected with those prolonged from the brain and spinal marrow, and with them enter the muscles and viscera; the second are alone appropriated to the viscera; the third are twined around the arteries.

As the cords of the great sympathetic are, at various points, connected with the cerebral nerves, the author infers that they must often excite each other. The following statement is interesting, as being characteristic of our author's system:—The lively sensibility or feeling of which we are conscious, and which subserves intellect, resides in the cerebral nerves, but the influence which, without sensation, forces the will, and independently of it, excites certain movements, is conveyed by the sympathetic nerves. Nerves distributed to the rectum, stomach, vagina, &c. are of both kinds. Other organs, as the intestines, &c. have only the latter. Ordinarily they do not feel, but occasionally they exert a very powerful influence, of which one is uncon-

scious, over the system generally, and upon the mental operations. The principle which operates through them, to produce these effects, is instinct residing in the organs. The great sympathetic nerve is not sensible, in its natural state, but may become so in a pathological condition, when modified by inflammation. The stimulations which it transmits to the brain are not felt in its own structure, but, when intense, produce sensation at the moment when they are communicated to the encephalic nerves.

M. B. believes that, since cords of the sympathetic go to muscles, they must co-operate in effecting their contractions. In those which possess both, the voluntary motions are produced by the cerebral, the involuntary by the sympathetic filaments. Other muscles are supplied exclusively from the sympathetic system, as those of the hollow viscera; and he infers that they are influenced by these nerves in the same manner as the voluntary muscles are by the cerebral nerves, and that all their motive influence is derived indirectly from the brain.

[We must beg leave to dissent from our author's opinion on this subject. There are numerous facts which appear to us to prove, in the most satisfactory manner, that the sympathetic nerves by no means bear the same relation to the muscles which they supply, as do the cerebral nerves. The will is the proper and almost exclusive stimulus of the voluntary muscles, and it is conveyed by the cerebral nerves alone. The involuntary muscles are, on the other hand, excited by a mechanical or chemical stimulus, directly applied to them, and which is proportioned to the action required. The heart is excited by the blood; the intestines, &c. by their contents. The experiments of Philip satisfactorily determine that the heart beats independently of the brain and spinal marrow. The heart beats when torn from the body, and is excited when a fluid is thrown into it. The nerves of the heart are no more voluminous than may be conceived necessary for its nutrition and for the purposes of association; but this organ is the most energetic muscle in the human body. Its nerves, indeed, are not larger than glandular organs of equal volume, in which there is no such appropriation of nervous power. We have been accustomed to regard the sympathetic system of nerves as having for their object, more especially, the association of all those organs which are concerned in common offices. By an interchange of vital influences, through their filaments, a necessary harmony of action is preserved between them, and they conspire to a common result. Thus the heart and lungs are necessary to each other, and the respiratory apparatus must act with an energy corresponding to that of the heart, since it effects a necessary change on the blood sent to it by that organ. They must, therefore, perceive the vital condition of each

other, and this is done through the medium of the sympathetic cords, the arrangement of which for this purpose is admirable. But these organs must all be harmoniously associated with the whole system, and hence exist the communications between the sympathetic and cerebral nerves, and by which communication, vivid impressions upon the external senses, and emotions of the mind, are made to influence the internal organs. This influence is to put them in a condition for supplying the wants of the external organs.

It appears to us that all the phenomena of the nervous system are referable to these principles, and that the positions of our author, relative to forcing of the will by the sympathetic system, and the borrowing of cerebral influence by it, are entirely hypothetical, and not a little complicated and metaphysical.]

The cords of which the author has spoken as being appropriated to the arteries, are the small filaments which are given off whenever an artery approaches a ganglion. These seem immediately to blend with the coats of the artery, where they come in contact with it, and are not continued to the capillaries, except where these arteries are mere supports to nerves, conveying them to the viscera. They are only the visceral arteries, however, which receive sympathetic filaments; arteries which are appropriated to organs under cerebral influence receive cerebral nerves. This is to furnish each with that kind of nervous influence which is bestowed upon the organs to which they are appropriated.

The author observes, however, that the great arteries of the cavities have more abundant cords, forming a tissue around them. From this, and from the fact that the veins which are not *active* in the circulation have none, he infers that the sympathetic filaments are appropriated to them for the purpose of innervating them or exciting them to the active offices which they perform in the circulation of the blood.

CHAPTER III.—*Of Respiration.*—The perception of the internal want which prompts to the act of respiration, according to our author, resides in the mucous linings of the lungs, and when resisted, is propagated to all the viscera; thus persons affected with dyspnœa refer their sensation of distress to the epigastrium. This want, perceived in the viscera, is announced to the brain by the nerves of the eighth pair, which arise from that organ, and are appropriated to the lungs. When this nerve is divided, according to M. B. the brain no longer perceives the peculiar want, and respiration, in consequence, becomes irregular, although the power of expanding the chest remains. The muscles of respiration are partly under the control of the will, and partly under that of the instincts residing in the viscera.

whose functions they subserve. They, therefore, sometimes, act independently of the will, and their action is always rendered uniform by the constant influence of the sympathetic nerves.

We shall not follow our author minutely through his account of this function, as he attempts no new elucidation of what is obscure in relation to it, but merely gives an abstract of what others have rendered probable. He regards the æration of the blood as subservient to the generation of vital heat, and also to muscular contractility, the energy of the latter being generally proportioned to the degree of the former. For a full account of all the facts that have been ascertained by observation or experiment, relative to this function, we refer our readers to Bostock's admirable Digest of Physiology.

Pathological Conditions of the Respiratory Apparatus.—The interruptions of uniform respiration by speech, singing, laughing, coughing, sneezing, sobbing, &c. are often causes of disease, especially when they are inordinate. From preternatural movements, and the frequent passage of air, they become irritated and inflamed. Coughing and sneezing also create a vacuum in the pulmonary vesicles, which causes an afflux of mucous and even of blood. In catarrhs, therefore, patients should be urged to refrain as much as possible from coughing, especially when little is expectorated. Sneezing, repeated and violent, sometimes, by sudden propulsion of blood to the head, produces apoplexy. The author alludes to a troublesome case of habitual sneezing, which was cured by the application of leeches about the nose.

Impure air is often the cause of pulmonary disease, and frequently air inhaled is the vehicle of irritating particles of matter which excite inflammation of the lungs.

CHAPTER V.—*Function of Assimilation.*—It is not necessary that we should describe the apparatus of digestion, nor that we should analyse our author's account of their functions, but so far as his remarks are peculiar to himself.

Our author's idea of hunger we have already had occasion to give. It, as well as thirst, is a sensation occurring in the mucous membranes of these organs, and conveyed by the sympathetic nerves to the brain. It results from an instinctive want.

M. B. observes that the conversion of alimentary matter into chyme is a process of vital chemistry, known, but not explained. He does not suppose the vital property of contractility, or any other vital quality of the stomach, to perform any essential part in relation to chymification; nor does he express any confidence in the existence of a gastric juice possessing the remarkable properties which have been ascribed to it. M. B. believes that bile is at certain periods of digestion conveyed into the stomach.—When chyle is formed it is precipitated upon the mucous membranes, which first imbibe it like a sponge into their tissue, and

then it is taken up by the lacteals to be conveyed into the system.

Diseases resulting from the Exercise of the Digestive Organs.

M. B. observes that the stomach is a singular organ, for its destiny is to be always irritated. If it be not irritated by the presence of aliments and drinks, it is remarkable that it becomes so by their absence. Hunger irritates it, it becomes contracted, and invites blood into its tissues. The undiluted gastric juices also irritate the organ. Gastritis at length results from these causes. Preternatural irritation of the stomach influences the whole animal œconomy, but especially the liver and the brain. The former is affected because the stomach demands of it an increased secretion of bile; the latter, because it is destined by nature to obey all the gastric irritations. During gastric assimilation, it is obviously necessary that the centre of perception should be informed whether it be performed in a manner injurious to the well-being of the animal œconomy.

The morbid aberrations of this function consist sometimes in the too impetuous afflux of fluids, and in preternatural muscular movements. There then results increased heat in the epigastrium, and this is propagated to the skin of the trunk, hands, feet, &c. There is, also, pain from the inordinate muscular action, eructation, disposition to vomit, &c. There also results a sense of fulness in the head, and drowsiness. The above phenomena occur when the aliments produce too much excitement in the stomach.

A very different train of affections ensue when the aliments, on the contrary, do not stimulate sufficiently. A sensation of coldness is felt in the epigastrium, and there results paleness and coldness of the surface; a sensation of weight, relaxation and fulness in the stomach; the pulse flags, speech is lost, and convulsions supervene. This kind of death, however, is extremely rare. More frequently the aliments, being gradually decomposed, gases and acids are generated, which, exercising an unhealthy stimulation on the stomach, fill it with mucous, morbid bile, and pancreatic juice. The organ then becomes tumid and its coats are engorged, without, however, being excited to digest its contents; eructations and colics occur, and finally the ingesta are expelled in the form of crude fæces. These events do not take place without great disturbance in those organs with which the stomach sympathises.

In regard to the mechanism of vomiting, which has been so variously explained by different pathologists, our author believes that the stomach begins the effort by slowly reversing its natural downward peristaltic contraction. The diaphragm then contracts in order to yield a firm support to the stomach above. By sympathy with the stomach the abdominal muscles are call-

ed into active contraction, and the contents of the organ are ejected. If the disposition to vomit be continued, the reversed peristaltic motion is propagated to the duodenum, and the contents of that viscus, as well as of the canal below it, are disgorged, together with the biliary and pancreatic secretions which are poured into its cavity.

The author's observations on the influence of vomiting upon the lungs are interesting and important. He observes that a considerable quantity of air being inhaled immediately previous to the convulsive act, for the purpose of giving mechanical support to the diaphragm, and the blood being retarded in the vessels of the lungs, there results a titillation in the extreme vessels, which, immediately after the effort to vomit, or during it, produces a sudden expulsion of air from the lungs, like that which occurs in coughing and sneezing, and which produces a strong vibration in the bronchial tubes by which they throw off the mucous, &c. which simultaneously accumulates in consequence of the engorgement of the lungs.

The changes which the circulation undergoes during the act merit attention; the lungs being condensed, retard the return of blood from the head, and a reflux takes place to the brain, face, skin of the neck, &c. By the pressure upon the abdominal viscera these organs become less permeable to their blood, which is made to seek the superficial vessels of the lower part of the body, and hence results perspiration, which is also aided by the sympathy existing between the skin and mucous membranes, which are at the same time preternaturally influenced. The organs which are the reservoirs of fæces and urine are sometimes so violently compressed, and thereby irritated, that they involuntarily expel their contents.

The author thinks that vomiting is more easily accomplished in infants because the viscera, being then predominant, have more influence over the muscles of respiration, to call them into prompt action, and not because there is any different mechanism in the act. The result in them is also facilitated by the greater volume of the abdominal viscera, by which the abdominal muscles act with more effect on the stomach.

Vomiting is much more easily effected in fat than in lean persons, for the same reason. It is obvious that the abdominal muscles can only influence the stomach mechanically by pressing upward the other viscera. Now, when these are so much wasted that the abdominal walls fall in, the contraction of the muscles will rather tend to enlarge than to diminish the capacity of the abdomen, and the peristaltic efforts derive no aid from them. This circumstance should render us exceedingly cautious in administering active emetics to persons much emaciated, as in protracted fevers, phthisis, marasmus, &c. Although symp-

toms might indicate their use, the effort will be ineffectual, and the patient be exhausted by it, and by the unavailing irritation produced by the medicine. Patients sometimes perish in these convulsive efforts.

M. B. observes that the stomach displays, for the digestion of aliments, an action in some degree proportionate to the difficulty of their assimilation, but, for this purpose, there must exist a certain affinity between them and it; otherwise, that is when they are indigestible, it is merely tormented by efforts for their expulsion. Hence we understand the nature of the injury which the digestive organs experience from the use of aliments difficult of assimilation, and from the use of mineral medicines, which, by continually provoking efforts for their rejection, destroy the digestive function, and consequently nutrition. Many unassimilable vegetable substances exercise a similar influence, as, for instance, bark, bitters, &c. which in this way produce chronic phlegmasiæ of these organs.

The whole animal œconomy suffers from the introduction of such substances into the system. The depurating efforts of the organs become exhausted, the nervous system loses its energy, and there result scorbutic affections, marasmus and dropsy.

The inordinate use of those aliments which are assimilable produces a different train of effects. For a time there follows merely increased nutrition, and the individual becomes corpulent and robust; his sensations are agreeable, and his animal spirits gay. His joyous mood is, however, at length occasionally interrupted by gastro-enterites, pneumoniæ, cephalites, and other acute phlegmasiæ, from which, however, he perfectly recovers, by the abstinence to which the disease compels him. He again resorts to his usual diet, and for a time is invigorated by it, but the frequent recurrence of these phlegmasiæ at last exhaust the recuperative efforts of nature, and the crisis becomes more difficult. The organs do not completely recover from these acute attacks, but there remains a permanent chronic phlogosis. This appears in the form of gastro-enterites, or chronic inflammation of the liver, together with hypochondriasis, and a numerous train of evils, mental and physical, which they induce.

The irritation which the intestinal canal experiences in such cases is from the transmission to it, from the stomach, of crude aliments imperfectly assimilated, and undergoing chemical changes. These organs are then called upon for the completion of what the stomach was unable to effect. Being unable to accomplish this, in many cases, they are disturbed with spasmodic contractions, colic-pains, and often relieve themselves by spontaneous looseness. The frequent, and finally habitual repetition of the irritation, produces chronic diarrhœa, dysentery, &c. &c.

CHAPTER VI.—*Of the Absorption of Nutritive Substances.*

We pass over our author's description of the chyloferous apparatus. He observes that absorption in the gastro-intestinal mucous surface is performed by the laws of vital affinities or vital chemistry. This phenomenon is of the same order as the assimilation to which it is the sequence. Fluids, then, are taken up by a kind of elective affinity, but it does not follow that substances foreign to the system are never combined with the circulating fluids, for they are often involved in those which are assimilable, and are thus taken into the circulation. The absorbing apparatus is not, therefore, an incorruptible sentinel, and hence the crude state of the circulating fluids may be the first cause of disease, and independent of faulty action of the solids.

The state of the fluids thus resulting will preternaturally irritate those organs which are excited by the blood, and will call on the discerning apparatus for unusual and exhausting efforts.

As soon as the molecules of the nutrient fluids have by their affinities been made to enter the mouths of the absorbing vessels, their transmission is effected by the property of contractility residing in these organs. M. B. does not believe that the glands, in which many lacteal vessels terminate, consist merely of convoluted vessels, but rather thinks that they are of a parenchymatous tissue, and that in them many absorbents terminate, and pour out their contents, which are re-absorbed by corresponding branches. During this extravasation, certain changes are supposed to be effected by vital chemistry.

In respect to the diseases occurring in the chyloferous apparatus, our author observes that these conduits are not known to be ever affected with inflammation, and yet we must suppose the occurrence of this phenomenon in inflammation of their serous investments.

Induration and enlargement of the lymphatic glands are regarded by our author as not affording serious obstacles to the absorption of chyle, because of the existence of those lacteal branches which do not enter the glands. Hence the affections of these ganglia of the mesentery are always of secondary importance in relation to the causes and symptoms of disease.

CHAPTER VII.—*Of the Circulation of the Blood.*—The anatomy of the organs concerned in this function we shall presume to be known to our readers.

M. B. regards the arteries as possessing contractility, which resides in the fibrine of the middle coat. The exercise of this office, however, in the larger arteries, is obscure and only manifested by a kind of vibration by which they urge forwards the blood which they receive. This contractility is just sufficient to repel the blood, but not to obliterate, at any point, the calibre of the artery, when the heart, as in syncope, shall have

ceased for a moment to act. It will be recollected that the author has before spoken of the appropriation of nerves to the coats of the arteries, and of the probability that they are furnished for the purpose of conferring on them vital properties which shall be useful in the circulation.

Of the Capillary Circulation.—The capillary system is supposed to consist of the ultimate ramifications of the arteries and veins, interlacing with each other in such a manner as to form a net work intermediate between the arteries and veins. M. B. agrees with other authors in ascribing to these vessels an action relative to the circulation which is independent of that of the heart. In proof of it he refers to the fact that the volume of blood in the capillaries is much greater than in the heart, and that the impetus of the fluid derived from the heart, being nearly lost here, can have but little influence in urging it from the arteries into the veins. He adduces, also, the experiments of Sarlandiere, who, on irritating the mesentery of a frog, saw the blood rush to the irritated point; also the phenomena of blushing, in particular portions of the skin, while others remain pale, although all are equally under the influence of the heart's impulse. In those who die of partial gastro-enterites, we often see a vivid redness around the inflamed part, although the adjacent tissues are deprived of blood.

M. Sarlandiere observed an occasional retrograde movement of the blood in the small vessels, which is not seen in the large, and this retrogression, appeared to result from irritation of the capillary tissues. These and other facts prove that the vital properties are much more vivid in the small than in the larger arteries. We also know that the ultimate ramifications of nerves are blended with those of the arteries and veins, and probably confer upon them important vital energies.

The most interesting of our author's remarks on the circulation, however, are those which relate to the interstitial extravasation of this fluid, in its passage from the arteries to the veins. He does not, as do many physiologists, believe that the arteries are all continuous with corresponding veins, although many are so, but he contends that the blood, from many of them, is effused into the tissues of the organs, which are every where porous, and that while transmitted, molecule by molecule, in contact with the filaments of those textures, the laws of vital chemistry take occasion to effect the important changes which are then wrought in the circulating fluids, such as the conversion of arterial into venous blood, nutrition, and the elimination of the various secretions. [This is not altogether a new idea with our author; a host of physiologists, at the head of whom was Malpighi, advocated the existence in the glands of minute vesicles, containing a pulpy matter, which intervened between the artery

and the vein. Ruysch, on the other hand, by his beautiful injections, endeavored to demonstrate that the tissues were little else than congeries of vessels, and that the arteries were every where continuous, not only with the veins, but also with the secernent vessels. The idea of our author, that in all the tissues as much blood is extravasated as is immediately necessary for nutrition, &c. and that another portion is conveyed through the vessels, seems to us to be far more consonant with the facts already ascertained.] Our author does not believe in the existence of distinct secerning vessels continued from the arteries, but supposes that the elaboration of the various secerned fluids and solids is effected from the blood extravasated in the tissues, by the affinities of vital chemistry. This he substantiates by the analogy of the zoophytes and the mollusca, from the fluids of which are formed calcareous incrustations without the aid of any apparent vascular apparatus for that purpose.

It is the parenchymatous structure, then, in which are effected the various vital phenomena which relate to the changes of fluids; it is here also that the nerves exert their influence on the secerned fluids; and it is here that the pathological changes which affect the tissues, the fluids, and the circulation, are primitively developed.

We are obliged to omit what our author has remarked upon the venous apparatus, and upon the return of blood to the heart. We will observe, however, that he regards the lungs and the liver as performing, in addition to more important offices, those of venous reservoirs to the heart; thus rendering the supply of blood, which that organ receives, uniform.

Of the Alterations of the Circulatory Functions which may become causes of disease.—The heart being an organ which is subservient, in its office, to every part of the system, it must necessarily have very general associations, by means of nerves, and in disease must manifest numerous sympathies.

The irritation of any part of the body, if sufficiently vivid, will affect the functions of the heart. The cerebral functions have a surprising control over it. We have already spoken of the influence which the intellectual and moral offices of this organ, especially the stronger passions, exercise over the functions of the heart. Both pleasure and pain, moral and physical, cause the heart to palpitate with violence. In the depressing passions, however, there results a kind of constriction of the organ, so that the blood, in place of circulating more freely, is retained in it, and in the brain and lungs, and is not sufficiently oxygenated to meet the wants of their respective functions. Hence results a feeling of suffocation, a momentary suspension of respiration, and of cerebral influence, producing tendency to syncope.—When these affections are aggravated by repetition of the cause,

the paroxysms are more marked, and assume the name of Angina Pectoris. Sympathetic irritations of this kind, often repeated in the heart, at length produce derangement of its tissues.

Local irritations in vascular parts very promptly excite the action of the heart and general febrile excitement results, which is permanent as its cause, but this excitement of the heart is very much like that transient exaltation of its function which takes place in a paroxysm of anger, &c. Repeated irritations of this kind also derange the tissues of this organ. This more readily takes place when the original local irritation is seated in particular tissues. Disease of the heart is especially apt to result from repeated attacks of muscular rheumatism.

Of the various organs, the functions of which excite the heart, the muscles should be considered, not only on account of their influence exercised through the nerves, but because they affect the circulation of the blood, hurrying its return to the heart.—Disease of the heart, undoubtedly, often arises from the convulsive action of the organ, produced by sudden and violent muscular efforts.

The sudden action of cold on the surface is also to be regarded as an adjuvant cause in producing disease of the heart. It operates thus by repelling the blood from the superficial capillaries, and causing its preternatural accumulation in the heart and great vessels.

It is a very important observation of M. Broussais that, in a morbid condition of the heart, we observe derangements in the circulation corresponding with the kind of irritation, and the portion of the heart, which is affected. When pericarditis exists, the diastole of the heart is incomplete; it receives less blood than ordinarily, and consequently this fluid stagnates in the viscera. The contraction of the walls of the cavities is painful, and the pressure of the two columns of venous blood produces a sensation of distress in the auricles. The pain sometimes resembles that of pleurisy. The blood traverses the lungs with difficulty, and is imperfectly oxygenized, and there results a sensation of suffocation and of approaching syncope. These sensations are increased by motion. Death, in these cases, results from defective circulation, and deficient oxygenation.

When the *internal* surfaces of the ventricles are affected with irritation, the openings into the arteries being more readily contracted than those into the veins, the blood is obstructed in its egress by the former, while it is still freely received by the latter, and hence result violent palpitations, by which the heart labors to free itself of its contents. Its violent muscular efforts invite a greater quantity of blood into its tissues, and hence results hypertrophy or thickening of its walls. For obvious reasons, in these cases, the pulsation of the arteries is not

correspondent, in violence, to that of the heart, and the pulse is small; the patient is harassed with difficulty of breathing, especially on exercising.

When the irritation is not thus predominant in the arterial orifices, but is more diffused throughout the walls of the organ, there then results preternatural contractions of the heart, and a correspondently full and forcible pulse. The circulation of blood in every part of the system becomes more vigorous than usual. The brain becomes excited, and, for a time, there is an exaltation of all the functions, and especially those of the muscles, the contractions of which become vigorous. Often there is a strong propensity to sexual indulgences, the gratification of which is not followed with the exhaustion usually attending their excess. The sequent diseases to which those individuals are liable who are affected with this morbid condition of the heart, are the various phlegmasiæ, hemorrhages, especially epistaxis, apoplexy, epilepsy, and indeed all those affections which proceed from excessive determination of blood to the head.—Aneurisms of the arteries are also a characteristic result.

Sometimes the heart becomes wasted by atrophy or fatty degeneration, in which case a train of effects, opposite to the above, results viz: venous congestion, disturbed respiration, diminution of animal heat, and an enfeebled state of all the organs.

Alteration in the Arteries.—The author confidently believes that the aneurismal dilatations of the aorta, so commonly ascribed to increased impulse of the blood, are generally, at least in part, the result of inflammation of that artery, producing a change in its tissues.

[We are persuaded that, in this respect, our author is perfectly correct, and that aneurism is very rarely a mechanical effect as relates to the artery. We were confirmed in this opinion by the examination of an interesting case of aortic aneurism, which recently occurred in the practice of Professor McClellan. The death of the patient was occasioned by the bursting of the aneurismal tumor into the œsophagus. The stomach was found to contain at least two pounds of blood, and a quantity, unknown, had been thrown up. In this case the heart manifested no signs of its having ever been the seat of preternatural excitement, but on the contrary was obviously much wasted, and appeared to have ever been an unusually small organ.]

Disorders of the Capillary Circulation.—These are far more numerous than those of the large arteries and heart; indeed they must constitute a part of almost every morbid affection.—The principal derangement of the capillary circulation is *inflammation*. There are, however, vascular engorgements which do not amount to inflammation, but which would do so if the viscera in which they are seated did not undergo such a derange-

ment of function as to cause death. These affections have recently been termed apoplexies, the term being applied not exclusively to diseases of the brain; thus we have apoplexy of the lungs, liver, &c. It consists of the extravasation into the porous textures, of a preternatural quantity of that blood with which they are always bedewed.

The parenchymatous textures are those in which this form of disease most frequently occurs. It is sometimes observed indeed in the skin. This is however a different state from ecchymosis, in which the tissues and the vessels are lacerated by external violence.

Our author speaks of the morbid changes which occur in the functions of the veins and in their textures. The characteristic disease of these organs is the varicose condition. This consists in preternatural dilatation from obstructed circulation and muscular pressure. The nature and effects of this form of disease, however, is so well understood, that we need not analyse our author's remarks upon it.

Inflammation.—The author does not promise a solution of all the difficulties relating to this obscure subject. He assumes that by irritation of any particular tissue, blood is determined to the part, (he does not tell us how) and there then results a vital erection. This, however, is not yet inflammation, but if the irritant be continued, the erection becomes permanent, and assumes the morbid character; the phenomena of vital chemistry become perverted; the organ is at first hypertrophied, and, if the irritation persist, its nature is changed either by the production of pus, or by being in some other way deteriorated.

CHAPTER VIII.—*Of the Depurations.*—The body, says our author, is constantly receiving more matter than is necessary for its support. This superabundance is observed in the first place in the digestive canal, which makes a selection, and the residue constitutes fæcal matter. The second separation is seen after intestinal absorption, in the depurating organs, which hasten to eliminate a superfluous serum, the retention of which would distend the blood-vessels and oppress all the functions. The quantity of matter which is daily added to the fixed solids is exceedingly small, although there is a considerable quantity taken into the circulation.

Depuration consists in the rejection of a large portion of that which is absorbed, and the expulsion of worn out matter. The organs which contribute to this general office are, the digestive organs, the skin, the kidneys, and mucous surface of the respiratory organs. Elimination is effected by the vital action of these emunctories, by which they are constantly exhausting a certain portion of the vital power, and this exhaustion becomes a habit of the animal œconomy. These organs act simultaneously,

but unequally, and so that when one acts more, the other acts in the same degree less. All these also evacuate sorosity, but each also discharges its own peculiar principles.

Of the Morbid Conditions of the Depurating Organs.—These arise from the waste or accumulation of vital power, in the greater or less action of those organs, and in the excessive evacuation or retention of the matters to be discharged. When sweating is excessive, there result cutaneous eruptions; general exhaustion, and when it is suddenly suppressed, visceral irritations. This results from the law that the action of another of these organs must be increased when that of one is suppressed. The vicarious excitement thus produced often amounts to inflammation. Sometimes it is thrown upon the serous membranes, producing peritonitis and pleurisy; at others it falls on the sinovial and tendonous capsules, producing gout; or on the tendonous and muscular tissues, causing rheumatism. From the sudden suppression of the depurations there also often results a morbid increase of the secretions and excitement of secerning organs, hence follow dropsies, bilious diseases, salivations, &c.

Diseases of the kidneys are produced by derangements in the cutaneous depuration. When the latter are excessive the urine becomes acrid, and irritates those organs, and when they are suddenly suppressed this fluid becomes increased in quantity and watery. The organs then become relaxed, and a habit of diabetic discharge is established. The long continued use of irritating diuretic medicines, often produces a permanent irritation in the kidneys, which gives rise to an increased and exhausting elimination of fluids by those organs. M. B. has seen many diabetic affections which were the result of inflammations simultaneously attacking the mucous membrane of the stomach, and the tissue of the kidneys.

ANALYSIS OF DOMESTIC MEDICINE.

PATHOLOGY AND THERAPEUTICS.

Ticknor on the Yellow Fever of Thompson's Island in 1824—North American Journal.—In two papers devoted to this subject, Dr. Ticknor of the U. S. N. has given an interesting medical sketch of that sweeping pestilence. He premises his observations with a brief notice of the locality and meteorological character of the place. The surface of the island he states to be low, and the interior of it to be occupied with lagoons of stagnant water, which are surrounded by marshes. During the prevalence of southerly winds, marine substances, both animal and vegetable, are thrown in great quantities upon the beach—from these there soon arises a pestilential effluvium. Allenton, which is the naval depot, is on the north-western shore; it is located between the harbor and a lagoon, on the lowest part of the island, and exposed to the lethiferous breath of the winds which sweep over the island. Average temperature for nine months of the year little less than 90°; heat unrelieved by sea-breezes. Sometimes there occurs a northerly wind, with great and sudden reduction of temperature.

The causes to which the disease was referable were, 1st, Miasmata. To these, conveyed by the nocturnal breezes, the men exposed themselves at night, on account of the extreme heat, in the open chambers of the barracks. Not an individual thus exposed escaped the disease. Intemperance, atmospheric vicissitudes, heat, fatigue, unwholesome food, &c. were, as usual, exciting causes.

Symptoms.—The disease was ushered in by a stage of torpor. This was marked with rigor, pain in the head, back and limbs; nausea and vomiting (exceedingly obstinate) of vitiated bile; oppression and soreness in the epigastrium; tongue covered with a viscid, white or yellowish coat; bowels torpid and evacuations foul and acrid; countenance peculiarly anxious; surface cold till re-action occurred. Sometimes these symptoms increased till death. Re action, however, generally took place, accompanied with aggravated pains in the head, vascular excitement, fibrile heat, face flushed, eyes swollen, tongue red, and in several cases covered with a dry brownish crust, skin hot and dry, pains excruciating, thirst intolerable, and the more so because all drinks were immediately rejected. Sometimes these symptoms were so violent as to produce immediate death. If not, they were followed by the period of *remission*, which was characterized by a more or less complete abatement of all the symptoms. Although sometimes able to walk about, the patient was generally in a low, languid state.

This stage in about twelve hours terminated in a second paroxysm. The symptoms of re-action were renewed, but were less strong than in the first, because of the powers of life being in a degree exhausted. The prognosis, therefore, was to be drawn, not so much from the absolute violence of the symptoms in this stage as from the apparent ability or inability in the system to endure them. When in the second paroxysm the pains were borne with more patience, the gastric irritation less, the thirst more tolerable, the alvine evacuations more healthy, the prognosis was favorable; and vice versa.

In the violent cases, the system seemed to be overwhelmed with the

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above symptoms; the mental disturbance became extreme; countenance lurid; pulse frequent and vibrating; extreme anxiety and restlessness. These were succeeded, in some cases, by another remission, less complete, and this again by another effort of nature; but, in most, death anticipated this result. In the third paroxysm the patient became insensible of his situation, eyes dull and glassy; pulse slow; skin livid, yellow and cold; appetite voracious; black vomit; hemorrhage.

Appearances after death.—In one case the visceral inflammation was confined to the peritoneal coverings of the stomach, duodenum, bladder, &c.; the liver was much engorged, and the spleen so much so as to resemble a coagulum. In another case the interior of the stomach exhibited the ravages of disease, it being filled with the matter of black vomit, and its mucous membrane disorganized.

In the *treatment* of this formidable disease the practitioner sought, 1st, to interrupt the cold stage; 2d, to moderate the excitement in that of re-action; 3d, to prolong the remission; 4th, to facilitate convalescence. The first was best accomplished by a mercurial cathartic, the gastric irritability precluding other internal remedies. Epispastics were simultaneously applied to the stomach. These sometimes interrupted the cold stage. Emetics were beneficial when irritability of the stomach did not forbid them. In the stage of re-action the remedies were bleeding, *pro re nata*, once generally sufficient; mercurial cathartics, highly important, and the most effectual agents to restrain re-action (in some cases two or three scruple-doses were given in a day); cold aspersions were found salutary, also epispastics. The third indication was best accomplished by mercurial cathartics, and especially by subjecting the system to mercurial action. In the fourth stage, the patient being either convalescent or else apparently relieved, it became the object of the physician, in the 1st case, to facilitate recovery by the use of mild tonics and bland diet. But in the second a last effort was made against the disease by employing, in cases of black vomit, large cathartics of calomel, also charcoal and oil of turpentine combined. For the hemorrhage nothing could be employed with any effect.

[It appears, then, that Dr. T. in the treatment of this epidemic, relied more upon calomel than upon all other remedies, and this confidence seems to have been the result of careful observation. His papers are well drawn up, and will be read with interest, especially by those who practice in southern latitudes.]

Dr. Monett on the Yellow Fever of Washington, Miss. in 1825.—*Western Medical and Physical Journal.*—The features of the epidemic sketched by Dr. Monett, in many particulars, strongly resemble those delineated in the paper of which the above is an analysis.

Washington is situated six miles from the Mississippi, and east of Natchez, upon an elevated site, and remote from marshes. About the last of August, the yellow fever having alarmed the citizens of Natchez, many of them fled to Washington, carrying with them furniture and merchandize. During the first ten days after this, many cases occurred, which were plainly traceable to a foreign origin; but at the end of this time, it was propagated among the inhabitants. The writer inclines to believe in contagion, and thinks it quite certain that the disease in this instance was transferred in formites. Several cases he relates, in which it appears to have been contracted from this source.

This disease was ushered in much as described by Dr. Ticknor. Dr. M. however, describes the pulse as being in the first stage quick, full and soft, and as often continuing so until the commencement of the moribund stage. He describes the bowels as peculiarly affected, being at

first slow, but, after the operation of a cathartic, affected with colliquative looseness. In a majority of cases the *lungs* were deeply affected. One half of the cases which occurred proved fatal. Recoveries were rapid.—The plan of treatment adopted was energetic, consisting of the free use of the lancet, promptly followed by mercurial purges, combined with antimony and opium; emetics in the early stages. After the primary excitement, calomel, opium and antimony, given as alteratives, were useful.—When the stage of collapse supervened on that of excitement, stimulants were freely employed, such as porter, wine, bark, serpentaria. In this respect the treatment, and perhaps the disease, materially differed from that described by Dr. T.

Condie on Vaccination.—*North American Medical Journal.*—The object of Dr. C.'s paper is to give such directions in regard to the selection and preservation of the matter and mode of inoculating as shall render the operation more frequently effectual than it now is. He recommends that the scab be employed rather than the lymph. The kind of scab which he prefers, is of a dark mahogany color, opaque, hard, thick. The amber-coloured, thin, and brittle scab he has oftener seen to fail. It should never be taken from an irritated pustule.

Dr. D. thinks that no particular care is necessary to preserve the scab, as he has often kept it, merely wrapped in paper, for a year, without deterioration. In introducing the matter he practices the scarification of the cuticle, with the shoulder of a lancet, and then rubs in the infection, dissolved to a paste in water. This is no doubt a more effectual method than that commonly practised.

The writer thinks vaccination to be safe at any period of infancy, unless forbidden by peculiar circumstances—it does not interfere with dentition.

Coze on the Effects of the Vapour Bath.—*North American Medical Journal.*—It is well that careful observation of the effects of this invaluable remedy has been made by one capable of justly appreciating its merits. We regard it as one of our most valuable remedial means, and as responding to indications which are common to many diseases. We believe the bath employed by Dr. C. was that termed the *medicated*, and was introduced into this city by Whitlaw. The vapour is made to pass through the dried leaves of such plants as are supposed to be suited to the disease. Dr. C. however, appears to ascribe efficacy only to the vapour. The apparatus is so contrived that the patient may be immersed, and breathe the vapour, or having the head excluded, may breathe the outer air.

Dr. C. does not think there is that danger in exposure to cold air, after the bath, which has been imagined, and he adduces, in proof, the custom of the Russians, who plunge into snow, when in the heat of perspiration, without injury. Indeed, it would seem from facts mentioned, that the accumulation of caloric fortifies the body against the effects of extreme cold.

The bath was used with complete success in cutaneous affections of the herpetic kind; also in chronic rheumatism. Its beneficial effects were strikingly manifested in a case of enlarged spleen, with tumid and soft abdomen, a cure being effected chiefly by its agency.

The writer candidly informs us, that, in a case of scrofula, the result of its use was unfavorable. In dyspepsia it was several times employed with various results; it obviated costiveness and improved the cutaneous functions, but, in one instance, it aggravated the phlogosis of the stomach, Dr. C. thinks from the inhaling of the warm vapor. In a case of acute nephritis, in which other remedies had failed, it was singularly effectual. It was found to be a remedy for influenza—also for erysipelas.

[We believe the vapour bath to be a neglected remedy, and probably not

because undervalued, but because inconvenient of application. A little ingenuity, however, will soon fit up, ex-tempore, an apparatus for the purpose, a slight frame of wood covered with a sheet, a tea-kettle and tin tube being all that is necessary. We have used it in extreme cases of acute pulmonary disease, in which there was difficult respiration and expectoration, from extreme soreness of the lungs, and from tenacity of the sputa, in the following manner:—A slight frame of wood was placed over the bed, a large sheet or sheets thrown over this, so as to form a canopy over the patient. Beside the bed, and within the canopy, was placed a bucket of hot water, and into this were thrown heated stones, which produced a cloud of vapor over the patient. This is accomplished without disturbing the patient in the least. We have seen the most decided advantage from its use.]

Coates on Delirium Tremens.—*Ibid.*—Dr. C. in a paper, couched in a very spirited style, gives us the result of his observations on this disease in the Pennsylvania Hospital. The cause of the affection, according to the writer, is a *suspension* of some accustomed narcotico-stimulant, generally alcohol, sometimes opium. The most frequent complication which he has met with is that in which, after the fracture of a limb or other serious injury, an intemperate patient is deprived of stimulus and put upon a low diet and antiphlogestic regimen. At length he becomes restless, light-headed, delirious, and finally furious; his imagination is haunted with phantoms that he seems to follow with a restless eye; he strives with preternatural power against his attendants, and his motions are irregular and tremulous. Dr. C. denies that gastric irritation makes an essential part of this disease, as is the opinion of Dr. Klapp and others. He avers that, in the cases observed by him, there has been scarcely any indication of gastric disease—no foulness of the tongue, vomiting, or other sign of it. He is equally confident that it does not consist in vascular excitement, since he has observed that the pulse is generally below the standard of health, and the heat of the body low.

The Doctor's pathological rationale of the disease is the following:—Alcohol stimulates the vascular system, but, as he thinks, produces the opposite effect on the brain and nervous system, subduing their action and producing somnolency. From habitual use of spirit this condition of the brain becomes habitual, and when the depressing agent is suddenly withdrawn, a violent re-action takes place in this system, and its excitement becomes morbid. The exalted nervous influence spends itself, in part, on the muscles, and sometimes he thinks death to arise from muscular exhaustion.

We give the following case as illustrative of the cause of this affection:

“Mania from Sobriety.—A very drunken fellow was imprisoned for theft, and put at once upon a diet of bread and water. He very soon lost his flesh considerably, became pale and languid, passed his nights without sleep, and manifested a disturbed state of his intellectual faculties. Delirium supervened, at first of a mild character, and afterwards more furious. The poor man imagined himself surrounded by horrible figures, which were inflicting torments upon him, and he uttered dreadful cries. Dr. Hansbrandt, who was called to attend him, having learnt his previous habits, suspected that the total abstinence from alcoholic liquors had been the cause both of his emaciation and of the mania. He therefore ordered him to have a little brandy twice a day; and, under this treatment, cerebral disturbance soon became allayed, the patient gradually regained his flesh and strength, and remained in good health during the rest of the period of his imprisonment.”

—*Rust's Mag.*

Epidemic Erysipelas in the Massachusetts General Hospital.—In the last number of the New England Medical Review and Journal is an interesting

account of the above named disease, by Dr. Geo. Hayward. The disease commenced with a patient who was brought to the Hospital, April 1826, with compound fracture of the femur. Gangrene of the wound, and erysipelatous inflammation of the skin, occurred on the 11th day, soon proving fatal. The next case was of a healthy young man, suffering with a fractured leg, and who entered the hospital in June. He recovered. Several other cases succeeded these, (no less than six in one week) and such alarm was excited that the medical attendants recommended the receiving of no more patients at that time. On carefully investigating all the circumstances which might be regarded as causes, it was pretty satisfactorily ascertained to have resulted from accidental defect in ventilation. Most of the rooms were heated by furnaces, which, from without, conveyed warm air, by flues, into the upper part of the wards; the foul air passed off by other flues near the floor. When fires ceased to be made in the furnaces, the patients, when the air was cool, stopped the flues, in consequence of which the air became stagnant. In the rooms having chimnies the disease did not occur.

The symptoms of the disease are not given with particularity, but they were those indicating depression of the vital powers, and were treated with tonics and stimulants, as quinine, bark, brandy and porter.

MIDWIFERY.

Professor M'Naughton's case of Strictured Vagina.—*N. Y. Medical and Physical Journal.*—Dr. James M'Naughton, the distinguished Professor of Anatomy in the University of the State of New York, relates the interesting case of an unfortunate female, who having in a labor of extreme difficulty suffered laceration of the vagina and bladder, recovered with such a cicatrization of the parts as almost obliterated the vagina. Nevertheless, at the end of eight years she became pregnant, and went through the usual period of gestation, at the end of which Dr. M'N. was called to attend her. On examination there was found a firm cicatrix of cartilaginous hardness, situated two inches from the orifice of the vagina. At the upper part, near the symphysis p. there was a small perforation leading to the uterus; beyond the cicatrix the vagina was ascertained to be natural. After some delay the Doctor divided the stricture laterally, on both sides, and introduced his finger to the os tincæ, which he found dilated. As the labor progressed, and the cicatrix was rendered tense by the head of the child, which presented favorably, the orifice of the cicatrix was still further dilated by incising its margin slightly in many places. At length it became much dilated, and Dr. M'N. flattered himself that a living child might be born. The strait of the pelvis, however, being preternaturally small, the head presently became immoveably locked, and he was compelled to the use of instruments. The forceps being inadmissible, and the vectus proving ineffectual, the crotchet was the dernier necessity. The calvarium having been broken up, and the brain removed, there was still great difficulty in moving the head. At length, however, the delivery of the child was effected, but the organs of the mother were unavoidably so injured that an opening between the bladder and vagina occurred, and the urine distilling upon the lacerated parts produced great distress. To obviate this evil a catheter was introduced into the bladder, and a pledget of charpie was applied to the opening. Judicious management restored the patient to health and healed the lacerated septum.

Prof. M'N. thinks the stricture in this case to have been so complete that in coition not a particle of the seminal fluid could have reached the uterus.

SURGERY.

Perkins' case of Stricture of the Rectum and Colon.—*N. Y. Medical and Physical Journal.*—In this case it was proposed, in consultation, a short time before the death of the patient, and when all other means of protracting the life of the individual had been exhausted, to cut down on the colon in the left iliac region, and endeavour to establish an artificial anus:—It was, however, opposed and over-ruled by the following considerations:—1. That the locality of the disease and state of the intestine could not be ascertained with sufficient precision. 2. The inflammation and irritability of the abdomen, already present, admitted no probability of success. 3. Patients do not long survive an artificial anus under circumstances incomparably more favorable than the present. Should the operation succeed it could prolong life on such conditions only as would render it burthensome to the possessor. Dr. Perkins observes—"These considerations appeared to me decisive at the time, and, in my view, were strengthened by the post-mortem examination. The proposal of such an operation I am persuaded can never be received with favor. A patient would not, and ought not, to submit to it, so long as a ray of hope remained of living without it, and when this was extinct the case would be desperate in every view. I cannot, therefore, but express my conviction that a disease like the above described will never submit to the control of art. It is a calamity from which there is no refuge but the grave."

 INTELLIGENCE.

We learn from the *New York Medical and Physical Journal* that Professor Torrey, of West Point, has recently been appointed to the chair of Chemistry in the University of New York, vacated by the death of Professor Dana. The election is judicious, and the character of the department will be ably sustained. There are now associated, in that institution, gentlemen of the highest respectability and acknowledged talent. They are not men of waning character, but are in the prime of intellect and enterprise, and we doubt not that, by their efforts, the institution will assume a rank which it has never yet possessed.

We cannot but express our regret that the distinguished individuals, who recently saw fit to withdraw from that institution, should still contend against the voice of the profession and the public, so decisively expressed, and abuse their well-earned influence in effecting an object which cannot but be injurious to the interests of Medical Science. Having failed to elevate the institution with which they were connected to the relative standing which should correspond to its locality, let them not defeat the accomplishment of this end by other persons. This is the only object which can be achieved by their present efforts. The number of students taught in the city of New York is three times less than in Philadelphia, and there are already two Medical Seminaries in that State. It will not be forgotten, that one cause of the secession of these gentlemen was the arrogance of their deportment toward other Colleges. We have seen two or three introductory lectures, from the pen of one of the late professors, the object of which was to depress the character of cotemporary institutions, and particularly the useful country seminaries which contribute so much to the general diffusion of Medical Science.

The connection which the Association has formed with a foreign College will never receive the sanction of the public, especially since disapproved by the legislature of the state. The Jefferson College of Philadelphia was

thus connected with an institution in this state, but its friends found it necessary to procure a legislative enactment in its favor. On that occasion no one was more clamorous against similar connexions than one of the present members of the Rutgers Association.

A year since it was announced in numerous public prints that arrangements had been made with the University of Pennsylvania to confer the honor of an *ad eundem* degree upon the pupils of the Rutgers school. This was glaringly inconsistent and peculiarly ungenerous toward the University of New York, on the part of the former Institution, which, but a few weeks before, had strained every nerve to defeat the establishment of a second College in Philadelphia, where every circumstance, but their own interest, required the existence of two. Nothing but a congeniality of aristocratic spirit could have urged such a sacrifice of consistency.

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JOHN DELAMATTER, M. D. of whom we have often heard as an intelligent and skilful surgeon, has recently been appointed to the chair of Surgery, in the College of Physicians and Surgeons, in the Western District of New York.

THIRD REPORT OF THE CONNECTICUT RETREAT FOR THE INSANE.

We have this moment received the above, and have, therefore, scarcely time to notice it in a becoming manner.

From our own observation, and that of others better qualified to compare, we are assured that this Hospital is one of the most perfect in its organization and discipline perhaps in the world. The little State of Connecticut may well be proud of her benevolent institutions. She now has two of unrivalled excellence and public utility, the benefits of which are diffused far beyond her own limits. They are the legitimate offspring of her moral and intellectual pre-eminence. Each of these Institutions, the Deaf and Dumb Asylum and the Retreat, was first endowed. and we believe the latter is still supported, entirely by individual donations.

The report is a very perspicuous expose of its present condition. It appears that unexampled success has attended the treatment of mental maladies adopted at the Retreat. The per-centage of cures of recent cases in the best conducted institutions of this country, and also of Europe, has heretofore been from 25 to 51. In this, 89 of 100 of these unfortunates have been restored to health and to society. Unexampled success has also attended the treatment of those usually hopeless cases of chronic madness. The following extracts will explain:—

“The far famed Retreat at York, in England, professedly devoted to similar objects, admits no Idiots, nor maniacal cases reduced to low grades of mental dilapidation. Of the thirty-four chronic cases, stated in the present Report, nineteen are of the identical description which would have been excluded by the practice of that excellent Institution. The remaining fifteen cases on the list, constituted the whole amount in that class who were properly within the scope of curative treatment, and of this number only a few were allowed to remain with us through the requisite term of trial prescribed, in such instances, by most other Institutions.”

“It is an affecting truth, confirmed by the experience of nearly all Lunatic Asylums, that, with every advantage of time, means and skill, the proportion of recoveries in this description of patients rarely exceeds six or eight in the hundred. With this disheartening fact in view, the Retreat had not ventured to anticipate the good fortune it has realized in the recovery of 4 out of 15 cases from this class, amounting to the ratio of 26 per

centum. While it unfeigned deplores the sad destiny of those who still remain unrelieved by its exertions, it cannot but feel consoled and supported by the consideration of its comparative success in a class of cases, where the nearest approach to hope, is often only a negation of despair."

No one has contributed so much to the success and excellence of this Institution as Dr. ELI TODD, who from the beginning has been its physician.—He has devoted himself with uncommon zeal to the study of mental diseases, and has drawn information from every possible source. He is also distinguished for precision in the discharge of the details of his duty, and for that suavity of manner which aids so much in winning back to intellectual life the victims of cruelty and unkindness.

American Surgery.—The National Gazette of the 20th contains a statement from an authentic source, that Dr. Dudley, Professor of Surgery in the Transylvania University, at Lexington, has performed lithotomy in seventy two successive instances, without the occurrence of a single fatal case.—We question whether there is another operator now living who has had equal success. Let not the Alleghany hide the fact. His mode of operating is the lateral, and he employs the gorget. It is certainly desirable that Dr. D. should publish the result of his experience. We should be extremely happy to receive a communication from him on this subject.

TO SUBSCRIBERS.

We defer our *Abstract of Foreign Medicine* for the next number. We had not received our foreign journals until this was in press. An occasional Analysis of Domestic Medicine will, no doubt, be agreeable to our subscribers.





CIMICIFUGA RACEMOSA

(Black Snake Root.)

THE
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Essays.

ART. I.—*An Inaugural Essay on the Properties and Effects of the Cimicifuga Racemosa (black snake root). Submitted to the Faculty of Jefferson Medical College. By G. W. Mears, M.D.*

CIMICIFUGA is the name of a North American family of plants. It is derived from the Latin (*cimex a bug* and *fugo to drive away*, from its offensiveness to bugs) and is characterized by the following botanical description.

Cimicifuga, gen. pl. 193 (ranunculacea). Calix 4 or 5 leaved. Petals 4 to 8, deformed, thickish, sometimes wanting. Capsules 1 to 5, oblong, many seeded. Seeds squamose.—*Nutt.*

There are four species, viz. 1, *racemosa*, 2, *fetida*, 3, *americana*, 4, *palmata*, belonging to this genus, all of which have been erroneously arranged under the genus *Actea**.

Racemosa, the species under consideration, belongs to class polyandria, order monogynia, and is designated thus: leaves decom-pound, folioles ovate oblong, incised, dentate; teeth mucronate, di-varicate; racemes virgately paniculate, elongated; flowers submono-gynious; capsules ovate.—*Pursh.*

This plant, *cimicifuga serpentaria* of Pursh, *actea racemosa* of Will. and Zinn, and *actea monogynia* of Walter, is also called black snake root, rattle weed, squaw root, and rich weed; and is of

* See Pursh. gen. plant. 993.

common growth, I believe, in nearly every section of the United States. In Massachusetts it is found abundantly, and is familiarly known as an Indian remedy for aches, sprains and rheumatism. I have seen it growing in nearly every part of this state, and in almost every situation; flourishing, as I have noticed, more particularly on rocky hill sides; and this remark seems to be corroborated by the observation of Doctor Garden, who says*, "it delights in broken rocky situations, remarkable for the fertility of the soil; hence the vulgar name rich weed; by which it is readily recognized by most of the planters, farmers and old women of our country." It will always be found springing up by the side of the old stalk; thus leaving, when the dried shoot falls off, one, or more, (as the number of germs may have been) decayed breaches in the root every year; as beautifully delineated in the drawing.

The large biternately compounded leaves of this plant arise near the root, and spread out, at about the height of a foot, or 18 inches, into a beautifully green dense cluster; while its flowering stem, erect, round, smooth, slightly maculate and jointed, ascends to 4 or 5 feet, where it terminates with a very handsome spike or spikes of white flowers; giving to the plant when in bloom a strikingly conspicuous and highly ornamental appearance. When the blossoms fall off, which usually occurs in the beginning of August, the seed vessels, then about the size and form of a small shot, are left irregularly disposed on the spike, presenting rather an unseemly aspect.

The root is horizontal with a caudex knotted, frequently having a number of collateral branches which terminate præmorsely; from the caudex are sent off many radicles, remarkable for the smoothness and evenness of their form and uniformity of thickness, which they preserve to a great length. It has, when green, a middling strong and rather disagreeable odour, and a slightly nauseous, aromatic, and astringent bitter taste. The colour of the cortical part is dark brown; while that within is a light grey, approaching to white. When thoroughly dried and broken it presents a fibrous uneven fracture. It is with considerable difficulty reduced to powder, in which state it bears a distant analogy in appearance, smell and taste, to the grey ipecacuanha.

In selecting the root for medicinal purposes, care should be taken to exclude all such pieces as have, either from collecting at an im-

* See Med. Record. Vol. VI. p. 609.

proper season or, perhaps what is more probable, carelessness in curing, become hard, flinty and of a bluish colour; this is not only worthless, but exceedingly nauseous, and should therefore always be rejected. We should also be especially careful to preserve all the radicles, as I am disposed to think, from some comparative experiments, that they possess more virtue than the caudex; and this doubtless, from the fact that they produce much more of the cortical substance, in which I have found the active properties principally to reside. It is scarcely necessary to mention that all the decayed parts above referred to should be removed with a knife; and this is best effected immediately after gathering, or while the root is fresh. I have prescribed it in the form of decoction, saturated tincture, and powder; the last of which is I think generally to be preferred; dose from 5 to 30 grains according to the age and condition of the patient.

Properties, &c.

With respect to the medicinal properties of the *cimicifuga racemosa*, but very little, I believe, has hitherto been known; for while American authors have given to bark, digitalis, kino, and quassia the most conspicuous places in their respective classes, they have scarcely noticed a native plant of abundant production, combining in an eminent degree all the valuable properties of these articles. The first account I think we have of it as a medicine is contained in the late Doctor B. S. Barton's collections for an essay, &c. where he speaks of the black snake root or squaw root as a valuable astringent remedy, which had been used with much benefit in a putrid sore throat which prevailed in Jersey some years ago. "The decoction," he further adds, "will cure the itch:" and again in another place he says, "the Indians make use of this plant as an internal remedy, with other vegetables, in the cure of rheumatism. But they depend much more on the decoction applied externally, or as is their custom, in the form of steam; hence I presume that the heat may have something to do with the cure."

Thus much being said, the plant was entirely neglected until about three years since, when the attention of the public was directed to it by a valuable paper written on its effects in phthisis pulmonalis by Doctor T. S. Garden, a highly respectable physician of Charlotte, Virginia. From the marked success of this gentleman, the most extravagant ideas of its virtues were entertained: accordingly numerous trials were immediately made of the remedy; but as it unfortunately failed to sweep as it were "*vi et armis*" all diseases before it, it soon shared the fate of many other imperfectly tested

but valuable medicines,—it was again discarded as worthless. Still however, under all these adverse circumstances I am happy to perceive that it has found its way into a recent edition of a popular work* published some time since in this city; where its ultimate effects on the circulation, so particularly identified by Dr Garden, are recurred to, without however any allusion to the author of that apparently important discovery.

Having thus summed up what has been written on this subject†, I shall proceed directly to a detail of the experiments instituted with a view of ascertaining the *modus operandi* of the medicine upon the healthy system; following this with its effects in disease.

The first experiment in which the peculiar effects of the article were most prominently displayed was commenced upon my own person, on the 20th of October. At 10 o'clock, two hours after a light breakfast, my pulse being 70 strokes to a minute, full and soft, I took 30 grains of the pulverized root. At 11 o'clock, observing no particular effect, I began taking of the saturated tincture a tea spoonful every 20 minutes. At 12 o'clock, pulse 73; much head-ach, and a disposition to sleep. At 1 o'clock, having taken about an ounce of the tincture and feeling drowsy, I lay down; soon felt very warm and fell asleep; awaking in something better than an hour from a very disturbed sleep (during which I swet some) with a most distressing pain in my head, giddiness, flushed countenance and dilated pupil: my pulse counted 82 pulsations to the minute. In a short time I felt much uneasiness at the stomach with violent efforts to vomit. These symptoms however soon in a great measure subsided, leaving no other unpleasant effect than some degree of pain in the head which continued until 11 o'clock at night, when my pulse was rather below seventy.

In the second experiment the powdered bark of the root was substituted. Of this I took 25 grains in the course of an hour, and as the effects which it produced were precisely correspondent with those already detailed, I conceive it unnecessary to note its operation particularly. From the results of these experiments I think we may justly infer that the *cimici. racemosa* is possessed of considerable narcotic power: and is, as its effects in disease will more obviously shew, a valuable diaphoretic.

* Chapman's Therapeutics.

† Save I believe a partial description of the plant which will be found in Rees's Cyclopaedia, article *Actea*, and a hint by Dr Bigelow of its effects in accelerating parturition.

Therapeutic application.

The first case which presented itself, warranting the exhibition of our medicine was one of intermittent fever, for which the patient, a lady of delicate habit, aged about 26, had been under ordinary treatment for six weeks. The paroxysms of her disease were irregular; appearing sometimes quotidian, and at others tertian. I saw the case on the 21st of June (exacerbations now daily); and receiving permission to give the snake root a trial, I commenced without any preliminary treatment by giving 20 drops of the saturated tincture, which produced considerable warmth over the whole system, followed by a slight degree of perspiration. At 10 o'clock, just at the commencement of the cold stage, the dose being repeated was again succeeded by a very sudden glow of heat, more transient than the first; this however exercised a decided influence over the paroxysm, as all the indisposition she suffered was that occasioned by a slight chill without any sensible fever. 22d—neglected the medicine until the paroxysm was coming on: 20 drops were now administered, but feeling little effect 20 more were taken after the cold stage was completely established, and though it continued for a half hour the subsequent fever was much lighter than usual, and went off with a most copious perspiration. On the 23d a tea spoonful was exhibited which entirely prevented a recurrence of the fever for that day. 24th—took about the same quantity as yesterday, had a slight chill. 25th—no chill. 26th—substituted a strong decoction of the root. 27th—dismissed her with a very good appetite, and strength much improved. I saw this patient five days after she had been discharged in pretty good health, and under no apprehensions of a return of the disease.

Case 2.—E. W., Prune street, ætatis 49, a labouring man of exceedingly intemperate habits, was exposed while fishing in the bay in January last to a cold damp atmosphere, and contracted a violent cough, which continued with a hoarseness for some weeks, since when he had suffered less from hoarseness, though the cough still remained, harassing the patient very much, especially during the night: ardent spirits were now entirely dispensed with. I saw him on the 27th of June labouring under great debility, loss of appetite, much cough at night, with considerable though difficult expectoration; he experienced pain in the breast *only* when he had occasion to cough much; was troubled with a paroxysm of fever every night which went off in

the morning with profuse sweats: pulse weak, small, and 105 strokes to the minute. The matter thrown off his lungs, amounting to about half a pint in 24 hours, was principally mucus, suspending here and there little masses, which to appearance were purulent matter. Under these circumstances I directed 30 drops of the saturated tincture of the *c. racemosa* to be taken at 5 o'clock in the afternoon and, in case no ill effects followed, 40 drops more on going to bed: having taken the last prescription he retired, but not to sleep; for very soon after lying down he felt a most intolerable heat and itching over the whole surface, even as he expressed himself to the end of his fingers: this effect was attended with a vertiginous sensation in the head and a great increase of cough which continued until morning, though the other symptoms were relieved in the course of an hour by a copious discharge from the skin. Upon my visit in the morning I found the pulse at 95, and tolerably regular. As he complained much of the medicine disturbing his sleep, increasing cough, &c. I advised only 30 drops to be taken three times daily, and leaving with him several ounces of the medicine with strict injunctions as to ingesta, &c. &c. I left the city to spend some time in the country.

At my next visit, which was on the seventh of August, my patient was decidedly better: his strength was now fast improving, appetite good, cough somewhat diminished and very loose, entirely exempt from that sense of stricture of which he complained so much when I first saw him; he still however had some fever in the morning. Pulse during apyrexia 80, and regular. Continued the tincture in 40 drop doses. 14th—able to walk some distance from home for the first time since sick. September 10th—commenced with doses of 10 grains of the pulverized root. November 20th—notwithstanding there is still some cough at night, appearances are much for the better. December 5th—much cough and pain in the breast during yesterday and the forepart of last night; towards morning an unusually large expectoration of a thick yellowish matter took place, followed by perfect relief from cough and pain until the ninth, when a similarly copious evacuation of matter succeeded a violent spell of coughing; since which the patient has been entirely exempt from cough, rested well at night, had a good appetite, and in fine appeared to be rapidly improving in every respect*.

* This report was finished on the 14th of December; since which our patient from another exposure had a violent attack of cough, which continued better and worse in despite of our remedy until the middle of last April, when he died.

Case 3.—Mrs S. W., Mead Alley, of phthysical parents, aged 38, affected with cough, pain in the breast and fever, together with much restlessness during the night, for upwards of two years. I saw her on the 12th of August, much debilitated, with loss of appetite and great emaciation: she spit but little, and that nearly all mucus of a glairy appearance, resembling the white of eggs, surrounding some few small masses of pus of the most fetid and disagreeable smell. I now directed a cathartic of rheu. and on the 14th commenced by prescribing 5 grains of the pulverized root three times a day. 17th—the medicine found to produce no unpleasant effect is continued. 25th—appetite very good, expectoration free, and so much corrected with regard to fetor, (before so exceedingly nauseous and offensive to the patient) that she scarcely notices it. The patient remarks that ever since the medicine was first taken she has been troubled with a prickling sensation on the surface, attended by a slight eruption, with an almost unremitted perspiration day and night. September 1st—strength improving; night's rest undisturbed, an enjoyment of which patient says she has not been able to boast since first sick. 7th—cough nearly cured; being troublesome only for 15 or 20 minutes in the morning about 9 o'clock. 13th—some pain in the breast, cough during the morning had been considerably more violent than ordinary; and in one of these fits several masses of matter were thrown up, which from their appearance she compared with pieces of lung, and said they were generally about the size of a filbert. I was mortified to learn that the vessel which contained this matter had been cleansed a few minutes before my arrival; yet I had no hesitation, from her description, in pronouncing the expectorated substance matured tubercles; and that this view was correct, I think the speedy recovery of the case affords pretty ample confirmation. 21st—as the cough was now very slight, and sputa nothing but mucus, the medicine was taken only twice a day. October 5th—patient discharged, every symptom of the disease being entirely removed, with a degree of strength sufficient to resume her wonted occupation, which was that of washing.

Case 4.—The subject of this case was a Miss E. R., Cherry street, ætatis 19, good constitution, who from undue exposure to cold had contracted a most distressing cough, which continued for about six months, very much aggravated at night. I commenced the treatment on the 5th of October, at which time she was very weak and exceedingly emaciated, by giving 5 grains of the pulverized root,

three times a day ; before she had taken an ounce her cough was wonderfully mitigated, and at the end of two or three weeks entirely cured. She soon recovered her strength, and a remarkably fleshy and healthy appearance.

Case 5.—Mr I. B., Catharine street, ætatis 30 years, attacked about two years since with a rheumatic affection of the knee and elbow joints, succeeding, as he said, a cold which he had taken while under the influence of mercury : as however he also mentioned that he had had some time previously swellings of the bones in several places, I had little doubt of the cause and nature of this affection, and merely mention it as co-existent with a cough and pain in the breast with which he had been troubled for a long time, and for which I was consulted on the 6th day of September. I found him suffering some pain in the upper part of the right breast : cough, with expectoration amounting to about three gills of a glairy tenacious mucus, through which was diffused about one quarter of its quantity of soft matter, resembling pus slightly tinged with blood ; patient says he has been in the habit of spitting, after considerable cough, small tough lumps of matter rather less than a pea. He has had for the last six weeks the most profuse night sweats, and a diarrhea, which being alternately better and worse, admits of his attending to business one half the time, while during the other, from debility, he is confined to his room and bed ; there appears to be no other evidence of fever than some degree of thirst during the latter part of the night : pulse 75, and weak. My first prescription was 5 grains pulverized snake root three times a day. 12th—Mr B. thinks he sweats much less, and rests better at night, but has a continual moisture on the surface during the day : bowels much less troublesome. 20th—appetite good, bowels perfectly regular, and night sweat quite inconsiderable. October 1st—strength greatly improved ; the pain in the breast so much relieved as not to be felt except upon sudden and active exercise. Dose increased to 10 grains. 15th—neither cough nor pain in the breast ; complaining of nothing now but debility and pain in the leg and knee, which had continued to distress the patient upon every slight transition in the weather during the whole course of treatment in the above case. For the alleviation of these pains, as the paroxysms were observed to be less violent while under the use of the cimicifuga, the dose was increased to 20 grains, and with it the tartar emetic ointment was applied to the parts affected.

Case 6 occurred in a young lady in Christian street who had been a subject of asthma from infancy ; she was attacked upon this occasion, after imprudent exposure, with a violent cough, attended with pain in the chest, prostration of strength, sense of suffocation and an occasional spitting of blood. To her, as she was very inimical to any thing in the form of medicine, I gave a strong decoction of the root with a sufficiency of candied sugar to make it of the consistence of a syrup : to this were added a few drops of the oil of anise, which gave to the whole a very agreeable flavour. Of this mixture the patient took a great spoonful every five hours. At the end of a week every symptom of her complaint was so much alleviated, that she was able to be about the house ; and in a very few days more to resume her usual avocations with as much ease and alacrity as before the attack.

Case 7 was that of a coloured man in Marshall's court, ætatis about 33, who had suffered from a cough and pain in the breast for near two years. Upon my first visit, September 8th, his situation was really deplorable : confined almost entirely to bed from extreme debility, he suffered much from his cough, which was always considerably augmented at night, and ordinarily followed by the expectoration of a small amount of tenacious pus-like matter, now and then tinged with blood ; breathing short and laborious. His hectic paroxysm generally lasted about 4 hours ; terminating in a most profuse sweat. Pulse during apyrexia about 80. He had almost constant diarrhea, and to this must be added a hiccough which had so relentlessly harassed our poor patient (though laudanum, ether, &c. &c. had been resorted to for its relief) that he had scarcely enjoyed a moment's respite for the last two weeks. Such being the desperate condition of the case, we could entertain no reasonable hope of amendment, more especially as it had been under the most judicious "ordinary" treatment for about six weeks. Conceiving however that nothing could be lost by making a trial, I prescribed the *cimicifuga* in doses of 4 grains three times a day. The medicine was taken regularly, and, to my very great astonishment, had relieved, as I was informed on my next visit, every symptom of hiccough from the hour the first dose was taken. 12th—it was now thought prudent to substitute the tincture as being less liable to irritate the bowels ; of this therefore 15 drops were given. 16th—bowels some better. 21st—very weak still, but appetite pretty good ; recurred again to the powder in doses of 6 grains. 30th—strength so much improved that

the patient walked to the river; expectoration free and copious; bowels perfectly regular. From this on, the symptoms of his disease fluctuated, being alternately better and worse, until the 1st of December, when he suggested to me his intention to decline the use of the *cimicifuga*, alleging that he had less confidence in it than formerly, and wished to try a new remedy; to this proposition I very cheerfully gave my assent, inasmuch as I could not expect much advantage would result from any further perseverance in the use of our medicine. It was therefore immediately abandoned, not, however, without leaving strong evidence of its superiority over other remedies, even in this desperate case. This patient I am informed has since died.

Case 8.—The subject of this highly interesting case was Mrs A. G. a widow lady in Seventh street, aged about 29, who had been suffering from the effects of a violent cold, contracted four months before I saw her, which was on the 5th of January 1827. At this period her cough was not so distressing as formerly, though very troublesome at night when it was attended by a fever with its copious and debilitating evacuations from the skin. The muco-purulent discharge from the lungs was also particularly large during the night. She was considerably emaciated, and complained of the debility and loss of appetite usually attendant upon pectoral affections. In a word, our patient appeared to be rapidly approaching, as she herself apprehended, a fatal termination of her sufferings. My first prescription was 5 grains of the pulverized root three times daily, to be gradually increased to 10. On the 7th I found her much improved with respect to the cough; and complaining of a pricking sensation on the surface. 10th—no pain in the breast, with such an abatement of her hectic paroxysms that her sleep was nearly undisturbed. 12th—appetite good, and strength fast increasing. 15th—dismissed entirely well*.

The 9th and last case of pulmonary disease which I shall notice occurred in the person of a woman aged 27 years, the servant of a friend of mine in the country, to whom the medicine with directions for its use was sent by myself. The most prominent feature of this case, besides the common symptoms of debility, emaciation,

* I saw this patient on the 3d day of July in a state of robust health which she says she has enjoyed ever since my attendance in January.

&c. was repeated hemorrhage from the lungs, often to the amount of half a pint. She had been under the usual treatment of v. s. blistering—cupping, &c. for several months, with very little relief. After the fourth day's exhibition of the *cimicifuga*, in doses of 6 grains three times daily, our patient began to regain her appetite and strength rapidly—the hemorrhage was arrested; and at the end of 3 weeks she resumed her avocations in the kitchen in apparent health.

To the above striking illustrations of the sanative powers of our remedy, in that most fatal of all maladies, the consumption, I am happy in having it in my power to add verbatim the two following cases, as reported by Dr Garden, who speaks thus: "I am probably the only physician who has ever used it (the black snake root) in his own person, or who has any knowledge of its virtues and effects in disease, except those in my immediate section of country; and therefore merely design to state facts which can be supported by the testimony of those physicians who were acquainted with my situation, and of those gentlemen who in conjunction with myself have witnessed its good effects on others. I can ascribe the health which I now enjoy to nothing but the use of this medicine aided by a suitable regimen; and nothing but utter despair, and entire extinction of all hope of recovery, together with a want of confidence in all the remedies, induced me upon the testimony of vulgar report to hazard the experiment. In a short time my estimation of its virtues was greatly increased, and the expectations which had been excited of its ultimate success were finally realized. Shortly after commencing the use of this medicine, the hectic paroxysms, which had attended me for some time previous, were entirely checked, the nocturnal evacuations from the surface of the body, to which persons affected with phthisis are subject in the secondary stages, began to diminish; the expectoration of a fluid from the bronchial vessels, resembling pus in appearance, was speedily arrested; the cough became much less troublesome, and less frequent; my pulse, which for some time had never been lower than 100 or 120 pulsations to the minute, was reduced to the medium standard; the pain in my right breast and side left me; my strength and appetite began to improve, and I speedily abandoned the use of all medicines, or any other means except attention to regimen and exercise. A period of twelve months had elapsed from my primitive ill health to my using this medicine, during which time I bled freely and copiously, kept up a constant discharge from the breast by use of blisters, searons, &c. and adhered to a strictly vegetable regimen, without any relief."

For a detail of the Doctor's second case, which I had intended, but for its prolixity, to give at full length, I beg leave to refer to the sixth volume of the Medical Recorder, page 611: observing only, that the case was one which the Doctor considered as purely scrofulous; and in which, though the debility was extreme, the pulse was so active as to demand the repeated use of the lancet. The *cimicifuga* in this, as in the first case, displayed the most happy effects; promptly restoring to the patient his usual vigour of health and strength.

With regard to the *modus operandi* of our remedy, we have from Dr Garden the following curious speculations: he says that, "like the *digitalis*, it disorders the sensorium, and operates in a powerful manner upon the secreting and absorbent systems. When exhibited in a full dose, it prostrates in a distressing degree, producing nausea, vertigo, anxiety, universal restlessness, pains in the extremities, &c. These effects are immediate and transitory. Its ultimate and remote operation is the converse of the above; and it is this which gives it the supremacy over other remedies of the same class. The *digitalis* induces a reduction of the circulation at too great an expense of the general powers of the system to be applicable in those cases where this medicine seems so admirably calculated to be productive of benefits. It is a paradox in medicine, and in whatever way it may be experienced, it certainly possesses the power in an eminent degree of lessening the arterial action, and at the same time imparting tone to the general system."

From these views, as well as the decided influence which the *cimicifuga* exercised over the circulation in the first, second, and two last cases of consumption as above repeated, it would appear that upon its powers in this way much of its curative effects depended, and that it might be applicable to cases *only* in which there existed high arterial excitement; but when we see it producing equally beneficial effects in precisely opposite states of the system, we are disposed to consider the "paradox" above adverted to as being only apparent or imaginary; and that, as the striking powers which it displays in reducing the circulation in phthisical cases are manifested only when the action is increased to much above the natural standard, this effect is produced by ridding the lungs of a species of irritation upon which the excitation of the vascular system probably depends; and *not* as the Doctor supposes by any specific action upon the circulation. To these conclusions I have been drawn by a particular attention to the effects of the medicine on the pulse when

exhibited in cases of a different kind. One of these which now occurs to me was that of a girl aged 17, (amenorrhea) pulse 80 and pretty regular: she was kept under the influence of large doses of the snake root for six days, without success; on the 7th—10 hours after the last dose, the pulsations counted 82 to the minute. With this instance I might present independently of three or four of the pulmonary cases, several more in which the medicine was given as an astringent.

Again, the Doctor attempts to explain the action of this remedy in consumption by telling us that "It was the opinion of the celebrated Dr Rush, that if there existed a remedy for héctic fever it was a tonic, and that it belonged to the vegetable kingdom." And such he continues, "is evidently the nature of the *actea racemosa*." Now to attribute its anti-hectic effects to its tonic properties (and this is certainly implied by the Doctor's language) would seem exceedingly absurd and inconsistent, when we for a moment reflect that bark and all its preparations, so much more actively tonic, together with the whole of that class belonging to the vegetable kingdom, prove in such cases entirely abortive: and hence we must conclude that its sanative effects in pulmonary disease depend upon a principle of operation *sui generis*, which appears completely inexplicable. For, were we even to suggest that it acts as a powerful alterant, a very rational inference drawn from the results of its exhibition in tuberculous disease, we should not expect to explain its salutary agency, inasmuch as other articles of this class are productive of no more benefit in pulmonary complaints than are the ordinary *tonics* and *sedatives*.

I regret much that my experience with the *cimicifuga* in rheumatic affections is too limited to justify an opinion with regard to its efficacy in that most intractable class of diseases; yet I think, from the prompt success of its application in the annexed case, I may venture to recommend its trial in those cases at least which have resisted other means of cure.

Case 8, the one above referred to, was that of a coloured woman *ætatis* 43, attacked on the 3d of September with a violent pain and inflammation of the left shoulder, which swelled very considerably during that day and night. I saw her on the morning of the fifth, pulse full, strong and very quick, tongue white, and skin dry and hot. I took from the arm about 12 ounces of blood, and ordered 10 grains of the powdered snake root. Evening—patient complains very much;

thinks the v. s. produced relief for a short time in the morning, and insists upon having it repeated; pulse very frequent and bounding, strongly indicating another bleeding, which would have been recommended, but for an inclination to test the powers of our medicine: it being accordingly omitted, 10 grains of the powder were directed on going to bed, with a poultice to the affected part, made by boiling 3 drachms of the coarsely powdered root in a pint of water down to one half, and then stirring into it, while hot, Indian meal to make it of a proper consistence. In the morning I found my patient infinitely better, complaining of no pain unless motion was made; she remarked that she had scarcely laid down the evening before, when a burning sensation, resembling the pricking of pins, was experienced all over the surface, but especially in the shoulder, followed by a most copious perspiration which never ceased until 4 o'clock in the morning; she also suffered considerable confusion and pain in the head until after having sweated for some time. Finding however her tongue still dry; pulse tense and active, amounting to 87; I thought prudent to repeat the medicine, which I did in doses of 10 grains three times a day, with directions to diminish the quantity if it produced any unpleasant symptoms in the head. The powders were all taken, and in the evening the tongue was moist, skin soft, and the bowels operated upon (probably from some peculiar idiosyncrasy) several times; but the pulse still active. Seventh evening—purged several times today; no pain except on large motion of the joints, and pulse nearly natural. I directed another portion of the medicine which again sweated profusely. 8th—three days from the commencement of our treatment the patient was discharged perfectly cured.

How to account for the curative operation of the snake root in this disease by any sensible effect, I must confess myself unprepared; unless it be by its action upon the skin, which has I believe been as much extolled in the treatment of rheumatism as any other depletive plan with which we are acquainted.

“By the late Professor Barton,” says Dr Chapman, “it (*actea racemosa*) is treated of among the astringents, and he tells us*, &c. Besides this property, *which I have never been able to discover in any degree*, it is expectorant,” &c. From this language I should infer a priori that the Doctor had had some experience in the use of the article: if so, I am not a little surprised that my own

* See page 155, ante.

limited experience should lead me to conclusions so directly opposite; indeed, from my observation, I am induced to think that the valuable astringent powers of the black snake root cannot be too much insisted upon. I have been in the habit of using it as a common remedy for the bowel complaints to which the little inmates of our institution* are, probably from their mode of living, exceedingly subject; and I believe I do not recollect a single instance of its failure promptly to relieve every symptom of the disease, while the general health and strength of the patient rapidly improved under its use. The following are among the cases recorded in my note book.

Case 3.—Jane Linsey ætatis 3 years. Diarrhea with prolapsus ani for several weeks. She had taken calomel and rhubarb, mag. calc. Creta ptt. &c. &c. without relief. September 17th—commenced with an infusion of the rad. cimicifuga made by steeping 2 drachms of the powder in a pint of boiling water for an hour; of this a great spoonful was directed every two hours. In three days she was dismissed perfectly cured.

Case 7.—John M'Carty aged 3 years and a half. Diarrhea and intermittent fever of 3 weeks standing: he had taken calomel in minute doses, castor oil, &c. Took, October 10th, of the infusion of the snake root. This produced considerable determination to the skin, and in the course of 48 hours his bowels were corrected; the medicine was however continued for a few days longer, when every symptom of the intermittent entirely disappeared.

Case 9.—James Dykes ætatis 4 years and a half. Took of the decoction of the snake root half an ounce to the pint of water, a great spoonful every 2 hours, for a bowel complaint of 5 days continuance; about three gills of the medicine completely arrested the discharge.

To these I might append many other cases of a similar kind in which the remedy displayed equally prompt and decisive effects. But as we consider the authority of the late Dr Barton sufficient of itself to establish the character of our medicine as an astringent, we can see no occasion for multiplying instances to prove the fact: observing only that I have recently been informed by my intelligent friend and class mate, Dr S. Thompson, that a decoction

* Children's Asylum of this city.

of this article is a very popular remedy with his preceptor and other physicians of Delaware county, in the latter stages of cholera infantum, dysentery, &c. &c. and is esteemed by them as a most valuable astringent, bitter and tonic.

Chemical analysis.—Process 1.

With a decoction of 1 ounce of the bruised root to a pint of water, I commenced my experiments, by applying as re-agents—1st. A solution of the acetate of lead, which threw down a copious flocculent opaque precipitate, leaving the supernatant fluid nearly transparent.—2d. The solution of gelatin produced a brownish deposit.—3d. The sulphur of iron changed the colour of the liquid to a dark blue inclined to black, much the colour of the precipitate which was pretty abundant.—4th. The carbonate of potass occasioned no sensible change.—5th. The muriatic acid, a bright yellow deposit.—And 6th. The muriate of tin, a copious precipitate of the colour, which Mr Thompson describes as indicative of extractive matter. Hence we may infer that this principle, as well as that of tannin, abounds in this plant.

Process 2.

The following tests were applied to a cold infusion of 2 ounces of the root to a pint of water, colour when filtered yellowish and muddy much the appearance of new cider, taste bitter and slightly mawkish: the results as subjoined.—1st. Nitrate of silver threw down an abundant bluish grey precipitate.—2d. Lime produced no alteration.—3d. Acetate of lead occasioned an immediate deposit of a yellowish sediment.—4th. From corrosive sublimate no change. These experiments justify the conclusion that the bitter principle is one of the proximate constituents of the article under notice.

Process 3.

Boiled half an ounce of the root in 8 ounces of water down to one half, and strained the decoction. One ounce of alum dissolved in water was now precipitated by a sufficient quantity of the carbonate of potass: having well washed the precipitate, it was added to the decoction, and suffered to digest for 24 hours; at the end of this time the fluid part was found to possess a slightly acid taste, to redden litmus paper, and occasion a black precipitate from the solution of iron.

Process 4.

Half an ounce of the root, having been steeped for 10 days in 8 ounces of alcohol; presented a colour resembling that of Lisbon wine; taste unpleasantly bitter, slightly analogous to aloes, though far less persistent. It was found that a small addition of water to this had no other effect upon it than to change it to a lighter colour, as it did not assume the opaline appearance until near three times its amount of water had been added; this being a pretty clear indicative that its resin is sparingly extracted by cold infusion, I boiled the remainder of the infusion for 15 minutes, when I found that a few drops of water produced a turbid appearance, and about equal parts caused it to let fall a dark brown semi-transparent sediment, which on being evaporated to dryness exhibited the properties of resin.

Process 5.

Boiled a small quantity of the root for a few minutes in water. On adding to this decoction a large proportion of alcohol a light brown precipitate was largely deposited, which proved to be very soluble in water; an evidence of gum.—Vide Thompson.

Process 6.

Having digested a given quantity of the substance under examination in diluted nitric acid for 48 hours, and then poured alcohol into the filtered solution, a very copious precipitate of starch was the result.—*M. Vauquelin.*

Thus we have woody fibre, tannin, ext. matter, bitter principle; gallic acid, resin, gum and starch.

With these, it would give me much pleasure to present the proximate alkaline principle which this vegetable most unquestionably possesses. Numerous experiments were made with the view to obtain the alkali; but owing to the very small quantity of the root which could be procured for prosecuting these researches, the result was almost necessarily unsuccessful; yet sufficient evidence of the existence of the principle in question was exhibited in these trials to encourage a future investigation of this interesting subject.

ART. II.—*Remarks on the Influence of Change of Climate upon Pulmonary Affections. By the Editor.*

The dernier refuge in phthisical affections which have foiled the materia medica is generally a southern climate. Confidence in the salutary influence of this agent is derived not only from observation of the many cases of recovery which have been effected by it, but also from *a priori* deductions in regard to the different influences of northern and southern climates on the human constitution.

Every one knows that in northern regions the lungs are the rendezvous of nearly all the diseases which invade the human frame; and it is a law of our economy that in proportion as one important organ or system suffers more others suffer less; hence primary hepatic affections are not common in the same climate.

One circumstance which renders pulmonary consumption so pertinacious is the continued operation of the cause which produces it. Many diseases which are excited by a specific agent, as small pox, typhus fever, yellow fever, &c. &c. when once produced, are generally no longer fortified by a renewed application of the cause, and nature has merely to contend against the series of morbid actions which ensue. The same is true with regard to many diseases not specific, but which are excited by common lædants, such as injurious diet, repletion, violent exercise, &c. &c. In them, the cause once removed, its recurrence is easily avoided, and the powers of life are merely called upon to repair the injury produced by its first impression.

The cause of pulmonary consumption, the most faithful and unwearied of all the messengers of death, does not operate on a specific susceptibility which is destroyed by its first impression, nor can any care screen the patient from its continued influence. It persists in its action on the human system as long as life remains. Indeed when once it has disturbed the healthy actions, the organs become more susceptible of its impression. While other diseases bring the system into a state which favours reaction upon themselves, this may be termed “the *pale faced* monster which makes the meat it feeds on.”

To rescue a patient from this disease, therefore, it is necessary to remove him from the perpetual influence of its cause. This can be effected only by removal to a mild climate. The system then, no longer subject to the renewed influence of the cause, rallies the recuperative powers, and is merely called upon to repair the ravages which have already been committed.

We may expect then that, as in many similar conditions of the system, there will sometimes occur complete restoration to health, even where the progress of disease may have been considerable.

But it is not merely in a negative character that the climate of the south is salutary in pulmonary affections. These regions have also their characteristic diseases, the result of their peculiar temperature and of local circumstances. Their nature is remarkably different from that of those occurring in northern regions, and they seize upon different organs. Southern endemics affect especially the biliary system; the mucous membrane of the digestive organs; and the skin.

Now it is well known that whenever a remedial or morbid agent makes a strong impression upon a particular organ, it operates as a derivative with respect to other organs, and hence, in southern climates, consumptive patients are not only relieved from the continued operation of the cause, but experience an influence which affects a pathological revolution in the system.

It has been long observed that, in those regions where intermittents prevail, pulmonary consumption is not so common. Indeed, all those diseases which arise from miasmatal effluvia appear to be in a degree incompatible with chronic pulmonary affections.

These circumstances should always influence our advice to patients who seek health in a southern climate. It is too frequently, nay it is generally, the case, that the individual flies merely from the severity of a northern winter, and returns with the spring. In this case, indeed, he obtains a respite, and, if the disease be incipient, may recover health; but if it be of a more grave character, he will by no means have experienced all that a southern climate is capable of effecting for him.

In my opinion the positive influence of a southern summer on a phthisical constitution is far more important than a mere exemption from the previous cause of the disease. Patients will not often be persuaded to remove until their symptoms have become alarming, and then the suspension of the cause is not sufficient to restore health.

The northern invalid has much less to fear from the disease of a southern summer than is generally supposed. The disease which he carries with him is counter to those affections, and generally proves a most effectual prophylactic. In making this remark the writer has in mind two interesting cases, in which the individuals were exposed with impunity to southern miasmata in all their intensity, and when even acclimated subjects were falling before them.

One of these was for a considerable time my patient, and there were manifested, in his case, unequivocal symptoms of tuberculous consumption. The usual routine of remedies and palliatives was carefully employed with occasional and partial benefit, but the disease, in the main, progressed, and was evidently becoming confirmed. By the advice of physicians, and by his own excellent judgment, he was persuaded to resort to a southern climate. His removal, indeed, was not prudently timed; for he commenced his residence in the city of New Orleans in the early part of the month of September and during the prevalence of a most fatal pestilence of yellow fever. Although it was considered madness for a northern individual thus to expose himself, yet he endured the season without the least inconvenience. He remained three successive summers in that city, and in the mean time gradually recovered from his pulmonary affection and became robust. After this he removed to Charleston and spent there the fatal summer of 1824, and was daily exposed to the pestilence which then desolated that city. He attributes, with confidence, his recovery, not to the mere escape from a northern climate, but to the change effected in his constitution by the influence of southern summers.

Adversaria.

ART. I.—*A Case of Chorea Sancti Viti cured by Iodine. Communicated by Philip Peltz, Jr, M.D.*

Miss Mary Ann S——, a young lady of about 9 years of age, of delicate frame and light complexion, with thin fair hair, had, sometime in April 1827, an attack of chorea sancti viti. Her parents, strangers in the place, not acquainted with any physician, applied for medical aid to a quack, supposing him to be a regular practitioner. In the course of a few weeks, however, they discovered his real character, and discharged him.

About the middle of May, 5 or 6 weeks after her first indisposition, I was sent for, and I saw her for the first time on the 15th of that month. Her situation was then most distressing; her body and extremities thrown convulsively into a thousand contortions by the irregular, frequent, involuntary and spasmodic contractions of the voluntary muscles. She was not able to sit on a chair, nor could she lie in bed unless she was held; her mother had to watch her day and night to prevent her precipitating herself out of the bed. The power of speech was almost suspended, and whenever she attempted to speak she was thrown into violent convulsions, and could hardly utter a single word intelligibly.

Before proceeding to my treatment of the disease, I will just state, what are my pathological notions of the disease, and the indications of cure as founded on them. It is not my intention at this time to enter into a long disputation on this subject, but merely to state what my reasons were for prescribing as I did.

In the first place, I took the complaint to be a disease of the brain and spinal marrow, or of their meninges; and I suppose it to be seated in part, if not altogether, in the *tunica arachnoidea*. The disease, I believe, may be divided into *acute* and *chronic*. The acute stage consists in active inflammation of the above named membrane,

and the chronic in the thickening of the same. From this we may infer that the chronic is a consequence of the acute stage of the disease. Hence, in the acute we find active depletion, both local and general, with a strict antiphlogistic regimen, sufficient to remove the complaint; but in the chronic we must resort to other remedies, and in a number of instances our medicines have not, as yet, been able to reach the seat of disease, and the sufferers have been forced to drag out a miserable existence, or consigned to an untimely grave; thus adding to our list (already too long) of *opprobria medicorum*.

Such were the views I took of the disease, when I commenced the treatment of the case under consideration; and such have been my ideas in all my practice in this malady.

Previously to this patient's coming under my care, the treatment was diametrically opposite to that indicated by the above views of the complaint. The most powerful stimulants, with full diet, were recommended and exhibited, and the disease was fast advancing from the acute to the chronic stage.

I first directed 15 leeches to be applied to each temple, and salts to be administered until free alvine dejections were procured, together with pediluvium and sinapisms to the extremities. The leeches and salts were repeated every other day, and the pediluvium and sinapisms every day, for about ten days. On the 25th instant a blister was put on the back of the neck, and kept discharging for some time. Frictions of turpentine were recommended, and with some effect, along the course of the spine; and continued for a considerable period. Under this treatment there was some improvement.

On the 9th of June, supposing that the inflammation was almost or altogether subdued and that there remained a thickening of the *tunica arachnoidea* alone, I prescribed tincture of iodine in doses of six drops three times a day, to be given in a little sugar and water. The dose was gradually increased from this to 24 drops three times a day. With this medicine my patient improved finely, and at length completely recovered.

ART. II.—*Extirpation of Tonsils.*

Dr Peltz used the instrument recommended by Dr Smith of New Haven for the extirpation of enlarged tonsils, in the beginning of July, with complete success. He thinks this instrument far, very far, superior to any other in use.

It is believed that Dr Peltz is the first surgeon who has used this instrument in Philadelphia.

ART. III.—*Remarks on the Treatment of Gleet. Communicated in a Letter to the Editor by George B. M'Knight, M.D. of Chambersburg.*

Sir,

In the second number of your Journal, p. 102, taken from a foreign journal, it is stated that "every surgeon must have occasionally lamented the obstinacy of this disease (gonorrhea) particularly in its chronic form," &c. followed by a prescription of balsam, cubebs, &c.

My experience in the treatment of the above disease is by no means limited. During a practice of eleven years, six and a half of which were spent in the United States army, I have met with every variety of case. It is to be presumed that every surgeon treats the disease in its first stage as one of an inflammatory character. I shall therefore confine my observations to its chronic form and to that stage which strictly deserves the name of gleet.

After the first four or five days, if the proper antiphlogistic remedies have been employed, the discharge is changed from a green, yellow, or greenish yellow, to a light straw colour, which may with great propriety be termed the second stage of the disease. I prescribe the following mixture: tinct. canthar. vesicatoriæ, 6 drachms, balsam copaib. 2 drachms; mix; dose 10 drops morning and evening, gradually increased until the cure is effected, which is generally in a few days.

In the third stage of the disease, which may be nosologically termed gleet, the discharge is white, more or less in quantity, unattended with ardor urinæ, and, if allowed to progress, followed by pain in the lumbar vertebræ, with general debility. Here I employ the tinct.

cantharid. vesicat. alone, or blend it with the balsam for the purpose of disguising the remedy (the balsam alone is not to be relied upon, I having given it in some cases to the extent of a pint without any effect), commencing with 15 drops of the active remedial agent three times a day, and cautiously increasing the quantity until the discharge ceases and the disease is cured.

In obstinate cases of long standing that have fallen under my notice, I have found the ol. terebinthinæ a useful auxiliary. Chalybeates with a generous diet are highly proper.

In some very obstinate cases the application of the emplastr. calefaciens to the lumbar region has been attended with happy effects. The tinct. meloe vesicat. employed by me is made agreeably to the formula in Dr Coxe's Dispensatory, 6th edition.

The above practice was taught me by my respected preceptor Professor Hosack in 1814, and having succeeded in *every* case to which my attention was directed, has superseded the necessity of hunting after *new* remedies.

The foregoing remarks would not have been thought worthy of being communicated to you, had not my attention been directed to the subject by the extract from the foreign journal: the facts are, however, at your service.

ART. IV.—*Cases of Indolent Buboës cured by the use of the Tobacco Ointment. Communicated in a Letter to the Editor by John Graham, M.D. of New York.*

Sir,

If the treatment of the following cases of indolent buboës by the use of the tobacco ointment appears any way novel, you will please insert them in your Journal.

James Smith applied to me, on the 5th of July 1827. His complaints were phymosis, purulent discharge from the glans and prepuce, and an indurated bubo in the right groin. He stated that he was five months disordered, and that the first symptom which presented was gonorrhea, and shortly afterwards the other complaints made their appearance. He also stated that he had observed no alteration in the size of the bubo for two months. I directed the antimonial solution and black wash. In the course of a few days

the discharge and swelling were entirely removed, and on retracting the prepuce there was no ulceration whatever. He stated to me that mercurial frictions, leeches and cold lotions had been used two months before without any good effect in dispersing the bubo. I ordered him to have a blister applied, and afterwards to have it dressed with the ung. hydrargyri for the purpose of promoting the discharge and preventing its healing.

In the same manner four blisters were applied without any diminution in its size. I was then induced for the first time to try the effects of the tobacco ointment, from a hint given me of its virtues by Professor M'Clellan of Philadelphia. I ordered him to rub in the size of a walnut of the ointment over the bubo three times a day, and to my astonishment in the course of ten days it was completely dispersed.

Patrick Burns applied to me on the 12th of July 1827. His complaints were, a superficial ulcer on the prepuce without induration; a large bubo in the right groin; and a papular eruption which extended to almost every part of his body, appearing very similar to true syphilitic blotches. He stated that he was three months disordered, and that he had undergone two courses of mercury without any good effect whatsoever on his complaints. He said that his physician had applied leeches three times to the bubo followed by frictions with camphorated liniment without any effect. He complained of severe pains in his shoulders and other joints. As there was no febrile action present, I directed for him the decoction of sarsaparilla together with the antimonial solution. I also ordered him to keep lint moistened in the lotion of calomel and lime water to the sores on the penis. 18th—the eruption was on the decline and his pains were considerably relieved. 22d—the eruption had almost disappeared, there were scarcely any pains in his joints, and the sore on the penis had healed. In the course of this time the bubo evinced neither a tendency to disperse nor to suppurate. I ordered him as in the former case to commence rubbing in the tobacco ointment which completely dispersed it in the course of twelve days.

William Ryan applied to me on the 20th of July 1827. His complaints were, excoriation of the glans and prepuce with purulent discharge; a small ulcer on the prepuce without induration; a large bubo in the left groin; an eruption of papulæ on his face,

arms and neck; enlargement of the tonsils with difficulty of swallowing; and pains in his shoulders and knees.

He said he had been five months disordered, and that he had been repeatedly salivated. I directed the same medicines as were employed in the preceding case with the same happy effect. The bubo was completely dispersed by the tobacco ointment in the course of two weeks.

Effects of the Tobacco Ointment in a Case of Syphilitic Bubo.—George Jameson applied to me, on the 22d of July 1827. His complaint was a livid coloured ulcer, situated on the body of the penis, with callous edges slightly elevated. He stated that he had used mercury. I directed him to poultice the penis with bread and water. 25th—the ulcer had assumed a tawny colour, and its edges had become more callous and elevated. 27th—it began again to exhibit the livid appearance; the penis then was considerably swollen, and the patient complained of severe pain. 30th—the ulcer was changing to the same tawny appearance as before, and an efflorescence overspread different parts of his body. August 1st—the efflorescence of the skin had disappeared in some places, while it appeared in others, there was a swelling of the glands of the right groin, and the surrounding induration had also increased. As the character of the ulcer became sufficiently evident by the increase of the callosity, I prescribed small doses of calomel, with the eighth of a grain of tartarized antimony, to be continued until the gums became slightly affected, which immediately caused a favourable change in the appearance of the ulcers. 8th—the efflorescence of the skin had disappeared, and the ulcer was completely healed. At this time the bubo was completely dispersed by the use of the tobacco ointment. I must confess I was somewhat puzzled in the beginning to know what course I should pursue, as it bore so close a resemblance to the sloughing ulcer. I observed on close inspection that the surface of the chancre, though dark, exhibited no slough, and that its progress was slow: both these circumstances, together with its callous edges, pointed out the proper mode of treatment to be pursued. The patient also complained of an aching severe pain in the groin, which I have always found to be a characteristic mark of the syphilitic bubo.

James Montague applied to me on the 5th of August 1827. His

complaints were, purulent discharge from the glans and prepuce; a hard indolent bubo in the right groin; and an eruption of papulæ in every part of his body. He complained of severe pains in his shoulders and arms. He said he was three months disordered, and that, two weeks since, the eruption had appeared. He said he had taken two boxes of mercurial pills without any beneficial effect. I directed a blister to be applied to the bubo and the lotion of calomel and lime water to be injected between the prepuce and glans, together with the decoction of sarsaparilla and antimonial solution. 8th—the eruption had declined, and the pains were more severe. 10th—the pains still continued to increase with fever and headache, pulse 112 with difficulty of respiration. I immediately took 16 ounces of blood from the arm; ordered the decoction to be omitted, and the antimonial solution continued. The following day he said he experienced decided relief, his pulse was reduced to 95, and his fever considerably lessened. 14th—he no longer complained of pains, and the eruption had disappeared. During the course of this time, the bubo evinced no disposition to disperse. I then ordered him to commence rubbing in the tobacco ointment. 16th—he called my attention to a small hard tumour situated on the left testicle, which was completely dispersed in the course of five days by rubbing in the camphorated mercurial ointment. 18th—the pains had again returned with oppressed breathing and cough; pulse 100. Sixteen ounces of blood were taken from the arm, and the antimonial solution added. This mitigated the severity of the pains considerably and relieved his chest altogether. 20th—as a means of preventing a recurrence of the symptoms, the venesection was repeated, by which he was altogether relieved. 26th—his complaints were all removed, and the bubo completely dispersed.

Analytical Reviews.

ART. I.—*Commentaries on some of the more important of the Diseases of Females. In three parts. By Marshall Hall, M.D. F.R.S.E. &c. &c. London, 1827.*

There are few whose contributions to medical literature are more valuable than those of the discriminating author whose practical comments we now present. In this instance Dr H. does, indeed, glean a field which has yielded its fruits to many a hand; but on perusing the work we are astonished that so much should have been left for the eye of this acute observer.

Of all contemporary medical writers we would give in our adhesion to Dr Hall, as the author whose pathological and therapeutic principles and deductions are most consonant with our own ideas of the relation existing between diseases and remedies. To us he appears to entertain exceedingly just views of the importance of the recuperative powers of nature in the treatment of disease. His remedial means seem directed by the consciousness that in counteracting the encroachments of disease on the human system we attempt the reparation of a machine with the structure and motive powers of which we are by no means perfectly acquainted. This general principle of practice is favourably contrasted with that of certain presumptuous practitioners, who handle our delicate organization with a rudeness which would indicate that man might recreate himself, and restore the dilapidations of time and disease.

The most potent of our remedies, directed in its application by the accumulated knowledge and experience of a thousand years, cannot supply a single impulse of that vital principle which is the basis of all healthy actions and sanative efforts.

We believe that those have ever been the most successful practitioners that come to the bedside of the patient as the allies of nature, who will always be found contending against the common enemy though sometimes with ill directed efforts. Such a rule of practice will by no means be found inconsistent with energy and decision.

Of female diseases Dr Hall recognizes three classes: 1st, those which are incident to female youth; 2d, those which are associated

with gestation, parturition and the puerperal state ; 3d, those which are incident to the middle periods of life, or which mark the decline of constitutional vigour.

PART I. Disorders incident to Female Youth.—Chap. 1. Disorders incident to Female Youth in general.

Peculiarity of constitution and the important change which occurs at this period distinguish the diseases of female youth from those of the male sex.

In females there is observed a greater development of the capillary system and a proportionate susceptibility of the nerves. The blood is also more lymphatic and hence a peculiar tendency to dropsical and hemorrhagic diseases. From the organs of the female being more sensitive results a large proportion of those diseases which are called nervous, such as painful affections of the head, heart, side, &c. and which are apt to be confounded with other diseases.

The important change which, in female youth, is established in the uterine system powerfully influences the general health, and is reciprocally influenced by it. Diseases seize this occasion to invade the system. The periodical recurrence of the menstrual function is influenced by the general health, and the latter is often influenced by the suppression, preternatural flow or leucorrhœal state of the former.

These, however, are not the only causes which serve to characterize the diseases of female youth ; few, at this period, escape the evil of a constipated state of the bowels induced by inactive and sedentary habits, by delay in yielding to the solicitations of nature to evacuate the bowels, and by the ampler size of the abdomen, pelvis, and large intestines in females.

A loaded state of the bowels, thus produced, is, according to our author, the source of most of the distressing disorders incident to this period. The alvine contents become irritating by delay, and morbidly excite all the digestive organs. The mouth first becomes foul, then the complexion becomes modified, assuming pallid, icterode and other hues, with each of which are associated peculiar internal derangements.

We would here particularly notice an important remark of our author that the icterode or jaundice hue of the skin, in chronic affections, is by no means always to be regarded as indicative of hepatic disease, as it is observed often to be an affection merely of the cutaneous circulation.

Resulting from causes mentioned, there is frequently a complex general affection, combined with some painful topical symptom changeable and multiform in its appearance. No organ is more likely to be affected than the uterus, and such a control does the state of the digestive organs exercise over it, that the condition of the tongue often indicates with precision that of the uterus and its discharges.

From the same source the mamma also suffers, and tumours are produced in the organ that are often mistaken for scirrhus.

Chap. 2. Disorder of the General Health in its more acute form.

This phrase is employed by our author to designate a form of disease not peculiar to, but more frequent in, females; it also distinguishes it from a more protracted variety of the same disease. The general character of the disease he observes to be very distinct and characteristic; but its complications are so various and mimotic, as often to obscure the general disease, and to counterfeit topical diseases, such as phrenitis, pleurisy, &c. &c.

First, of the symptoms which characterize the general disorder. They come on, says the author, insidiously, and gradually induce imbecility of mind and body. They may progress unobserved many months, and, when medical advice is first sought, the complaint will be characterized by a general feeling of weakness, headache, tremors, vertigo, fluttering, faintishness, susceptibility to hurry and agitation, weariness, aching, and loss of flesh. Sometimes these symptoms are induced more suddenly by some exciting cause, as a fall or other accident.

There are also important characteristic changes of the tongue, countenance and skin. The countenance pale and thin; lips pale; chin tremulous on speaking; sallowness about the eyes and mouth; face at first rather bloated; and skin coarse. Tongue generally much loaded, œdematous, swollen, marked by the teeth, furrowed or plaited, and presenting numerous enlarged papillæ; gums swollen; inside of the cheeks impressed by the teeth. In some severe cases the load of the tongue will have suddenly peeled off, leaving the surface red, smooth and tender.

Frequently there is a slight degree of morbid redness and tumidity about the tonsils and soft palate; saliva viscid; teeth and mouth foul; occasionally slight bleeding from the mucus membrane.

There is tendency to perspiration on the slightest agitation; hands and feet cold; fingers livid; nails often of a lilac hue. Tremors, especially after slight efforts, are remarkable.

The mental, sentient and nervous powers are much affected, and there occur drowsiness or wakefulness, incubus, loss of memory and absence of mind. There is often a sense of fluttering at the heart; pulse rather frequent and easily accelerated, sometimes irregular.

The appetite is occasionally wanting, sometimes morbid, and sometimes there is craving, without ability, to take food; digestion sometimes unimpaired, and at other times attended with flatus, pyrosis, sense of load, and occasional vomiting. Bowels, at first constipated, become alternately costive and loose, the evacuations being dark, fetid, accompanied with mucus and sometimes blood; frequently an acute pain in the course of the colon and rectum; urine variable.

The uterine discharges are observed to be changed only in protracted cases.

The condition of the countenance, tongue, mouth and skin is the most constant diagnostic criterion, every other symptom being variable. The concurrence of many of the mutable affections, however, aid the diagnosis.

In addition to these two classes of symptoms, there is often a predominating complication which engrosses the attention of the patient and sometimes the practitioner; it may be of the head, heart, &c. counterfeiting other diseases. Dr Hall proceeds to describe the individual complications, and to indicate the traits which distinguish them from the idiopathic diseases which they imitate. He observes that the diagnosis should be cautious because symptomatic disease often becomes idiopathic and organic.

The first of the topical affections is that of the head, and it consists usually in pain and vertigo. It may be presumed that these are symptomatic when they are accompanied with the general symptoms that we have described, especially if they have long subsisted in a varying character, if the remedies for vascular engorgement of the head have been tried with little or transitory relief, and if the headache is accompanied with sickness, faintishness or cold perspiration. Under these circumstances we may expect the complication to yield to the remedies which mitigate the general disorder. The diagnosis is therefore obviously important, and the more so because the idiopathic affection when it exists requires prompt and energetic practice. Organic disease of the heart is another affection which is counterfeited; there often occurring palpitations, intermittent pulse, &c. &c. The symptomatic affection is distinguished by the association of general symptoms and the effects of remedies; and especially by observing the effects of exercise, for in organic disease of the heart the symptoms are always aggravated by exertion.

Jaundice sometimes occurs in this affection often accompanied with pain indicating the presence of gall stones, inflammation of the pleura, liver, &c. &c. Symptomatic affections of the bladder are common. Nervous and muscular affections, accompanied with pain so severe as to resemble *tic dolooureux* and also with spasmodic affections, are common.

Treatment.—The first object is to regulate the bowels. The author, however, deprecates the empirical employment of purgatives, and avers that their excessive or injudicious use often aggravates the very affections they are designed to relieve, by irritating the intestinal canal and exhausting the system. Purgatives employed should be of a mild character and conjoined with cordial medicines and mild nutritious diet. The purgatives which best answer the indication are the various preparations of aloes, rhubarb, senna; also manna and mild neutral salts. To prevent irritation and exhaustion exhibit 4 or 5 drams of tincture of columbo twice daily.

The author objects to mercurials, and also forbids the free employment of tonics. The cure is to be completed by attention to

diet, early hours, sponging, judicious exercise, exemption from all the causes of these complaints, and by time.

In general, solid food, well masticated, agrees best, and especially mutton, chicken, (we would add tender beef, soft eggs, jellies) stale bread; best beverage, at dinner, is hot water with sugar and the smallest quantity of brandy or port. In cases of extremely irritable stomach, nothing heavier can be borne than arrow root, perfectly done in water, at first qualified only with sugar but afterwards with milk, cream and spice.

That degree of exercise should be used which invigorates without fatiguing, and it should be alternated with rest. Change of air is desirable; the influence of sea breezes salutary. It is particularly necessary that the cutaneous circulation should be cherished by warm clothing and by friction. It is especially important that the feet which tend to be cold, should be kept warm and dry; they should be bathed in brine, hot or cold, and rubbed with coarse flannel.

[We would here subjoin to our author's remarks on dress and temperature, that, while we carefully protect the surface from the influence of cold, we should be equally solicitous that our patients be not encumbered with unnecessary clothing, than which nothing is more debilitating, especially during sleep; it then produces hurried circulation, which renders laborious respiration necessary and causes the individual to be restless and oppressed with incubus.]

In regard to the treatment of the various complications the author observes, that while it may be expected that the removal of the general disorder will dispel local pains, yet it is proper that topical remedies should be conjoined. In affections of the head, however, much bloodletting is deprecated as aggravating the complaint, though moderate leeching and cupping are salutary.

Symptomatic affections of the heart are to be relieved by the employment of tinct. of hyosciamus and sal volatile; local pains by the use of cups, blisters and liniments; icterus by an emetic of ipecacuanha and an active purgative; diarrhea by a few drops of tinct. opii and sal volatile, after a cordial laxative. In case of pains in the colon from lingering fæces, frequent injections of warm or cold water are *highly important*; they may render unnecessary the frequent use of purgatives when found to irritate.

Chap. 3. On Disorder of the General Health in its more protracted form.

The transition from the acute to the protracted form of this disease is gradual, sometimes even occupying years, though unobserved; sometimes the latter occurs without having been preceded by the acute.

In this form, the less variable symptoms of the acute, as those of the tongue, mouth, skin, &c. are found to persist and to be even more strongly expressed, while the more variable ones will have

greatly subsided and the complications become totally different. The countenance is permanently pale and sallow, and there is a morbid areola round the mouth and eyes; the lips have lost their hue of health. The tongue is clean, and the mouth has lost its mucous clamminess and offensive odour, for which is substituted sometimes the odour of new milk. The impressions of the teeth on the tongue and the sulci upon the surface of this organ present the aspect of longer duration; the papillæ are much enlarged. By these appearances we may judge of the stage as well as state of the disorder. When on opening the sulci upon the tongue they appear lobulated, according to our author's experience we ought to suspect simple enlargement of the liver. The skin is dry and furfuraceous, and liable to attacks of furunculus, paronychia, erysipelas, urticaria, lichen, &c. Aphthæ and ulcerations occur in the mouth; the teeth decay. Tremulousness, debility, and faintishness less marked than in the acute; bowels much deranged, also the uterine system; urine variable.

Treatment.—The same for the most part as in the acute form, with the same precautions in a still greater degree. Cordials and tonics must be employed more perseveringly. One grain of sulph. ferri may be given with some aromatic three times daily. Sarsaparilla and sulph. quin. also valuable.

Chap. 4. Of that form of Disorder of the General Health attended by extreme pallor, or of Chlorosis.

This form of disease is regarded as arising from causes similar to those from which arise the affections treated of in the foregoing chapter, but modified by peculiarity of constitution which is generally the lymphatic temperament. The general form and mode of treatment of chlorosis are very different from those of the foregoing. The disease exhibits three stages, the incipient, the confirmed, and the inveterate.

The general traits of this disease are a morbid paleness of the complexion, tongue and general surface, with recurrent head ache, palpitation, nervous tremors, hysteria, tendency to emaciation and œdema. In the first stage the face is pallid, often with a greenish hue, slate coloured, or yellowish; lips bloodless; countenance tumid, especially the upper eyelid. In the second stage these symptoms are aggravated; and in the third still more strongly marked. In the first stage, the tongue is white, loaded, swollen, and marked by the teeth; mouth clammy, breath tainted. In the second stage, tongue clean, exanguous, smooth, with slight appearance of transparency, and a slight lilac hue. Last stage, the tongue smooth and shining; skin pale, opaque, tumid, sometimes yellowish; nails brittle.

In chlorosis the patient is languid, listless, and irritable, often affected with head ache, pleuralgia and palpitations. In this disease there is a peculiar and characteristic pain in the lumbar region, which is not aggravated by pressure nor deep inspirations. Appe-

tite capricious. In the first stage bowels always constipated; afterwards alternations of diarrhea; discharges fetid. The catamenia exhibit every variety of morbid deviation. In severe and protracted cases there occur almost constant pain of the head, intolerance of light, pleuralgia with difficult respiration, also violent spasmodic affections, as locked jaw, contorted limbs, &c.; indeed every part of the system is liable to exhibit its complications which are very often mistaken for local idiopathic diseases, a very dangerous mistake because repeated bleeding aggravates every symptom of chlorosis. They may be distinguished by the history of the case and the association of general symptoms.

Treatment.—Mild aperients essential; aloes, rhubarb, manna and rochelle salts preferable. Tonic and cordial medicines important, especially iron which is chiefly salutary in cases characterized by paleness of the lips. Liniments, spirituous lotions, and blisters proper for the local complications; sometimes cupping.

Chap. 5. Of those forms of Disorder of the General Health attended by other Changes in the Complexion.

These changes are 1st, the icterode; 2d, the light lead hue; 3d, the ring of tumid darkness occupying the eyelids: each is associated with a distinct form of disease.

[We find this chapter of our author to be not a little perplexing; for although he explicitly states these several shades of complexion to mark diseases distinct in other symptoms, and requiring different modes of treatment, yet in his description he confounds them all, and makes no distinction whatever between the treatment of these and those affections treated of in the foregoing chapters. We see no utility in devoting so many pages to symptoms which so far as we can yet discern are fortuitous, and not at all necessary to precision in the use of remedies. Every writer has his characteristic fault, and we suspect that Dr Hall's is an affectation of distinctions where there are no differences.

Chap. 6 is devoted to the consideration of hysteria as a complication of disorder of the general health. We deem it not necessary to analyze this chapter, nor would our readers be interested in the 7th, which treats of diseases incident to females recently returned from India. We omit also the 8th.]

Chap. 9. Of the Diagnosis and Symptoms of some Local Inflammatory Affections.

As there are many topical affections, which have been mentioned as symptomatic of the general affections that have been treated of, it becomes necessary to furnish more numerous criteria to distinguish local inflammations, especially as this is of great practical importance. Dr Hall deprecates the habit of regarding every local pain as inflam-

matory, and hence prescribing the lancet; he admits, however, that it is less injurious to use the lancet where not necessary, than to omit it in those cases which demand it; he has, however, often witnessed injurious effects from the use of the lancet in local affections founded on general disorder.

If the local affection be associated with the symptoms of general disorder, and there be an entire absence of any external cause of the local affection, there is reason to presume it to be symptomatic. Still, however, idiopathic disease may be conjoined, and functional disease, by long continuance, may have been converted into organic. When there are many of the general symptoms which affect the head, heart and breathing, the nervous and muscular systems, the particular affection is more certainly symptomatic. Hysterical affections are not apt to be associated with idiopathic local disease. The mode of attack is also often characteristic. Topical inflammation sets in regularly, but the symptomatic affection is sudden and variable. The effects of remedies aid our diagnosis.

Chap. 10. Of the constitutional Symptoms in Tuberculous Affections of the Abdomen.

The symptoms indicating tubercles of the abdomen are clearly manifested, and it is of these that our author particularly speaks. They are insidious, uniformly, but slowly, progressive, and fatal; often hereditary. Period of attack, most common, is from 15 to 25 years. They are principally characterized by three symptoms; first, great tendency to coldness and lividity of the extreme parts of the body; second, a frequent pulse; third, slow but progressive emaciation.

The aspect of the countenance is peculiarly languid, emaciated, and the nose, in cold weather, cold and livid. The skin is moist, soft, and there is perspiration during sleep. A remarkable sensibility of the whole body to cold is characteristic; the patient creeps over the fire, and shivers on the slightest exposure; hands and fingers livid and cold. The patient stoops, and walks with caution. Pulse sometimes 100 or 120 for several years. There is often morbid appetite; copious pale alvine evacuations; pain and tumour in the abdomen; catamenia scanty or wanting.

[The foregoing pages are a careful analysis of all that we deem important in Part I. of this valuable work; we shall present the remainder in our next. Our readers will perceive that in our mode of reviewing works of merit we furnish an unbroken epitome. To us this is indeed laborious, but to our readers must be far more acceptable than the ordinary mode of patching up an article with insulated paragraphs. We have recently received several very valuable works which we shall shortly analyze.]

ART. II.—*Pathological Anatomy: The last course of Xavier Bichat; from an Autographic Manuscript of P. A. Beclard; with an Account of the Life and Labours of Bichat by F. G. Boisseau. Translated from the French by Joseph Togno, Student of Medicine. Philadelphia. J. Grigg. 1827.*

The work entitled as above has fallen to the medical profession as the last legacy of that extraordinary man whose name, in medical chronology, will hereafter mark the period at which he lived. It does not, however, constitute a part of the matured system of Bichat, but was the result of his primary labours in a department which, had he lived, he would doubtless have greatly enriched. The volume consists of notes of his last course of instructions recorded with care by one of his pupils. Incomplete as it is, however, it exhibits the traces of a master hand, and in regard to its value to the profession, as is observed by his biographer, may be compared to the sketches of a Raphael.

The manuscript of the work was prepared by Beclard, in 1805, from notes taken at a previous period, and not published in Paris till 1825. Many of the observations, therefore, which it contains have been anticipated in the progress of inquiry, and some few may have been shewn to be fallacious. The editors, however, chose to present it entire, the above circumstances being made known.

From the fact that M. Beclard has endeavoured, as far as possible, to preserve the diction of the lecturer, it follows that the style is in an unusual degree idiomatic and the phraseology abrupt, circumstances which must have rendered its translation exceedingly difficult. To avoid on the one hand retaining idiomatic phrases, and on the other a departure from the meaning of the author, is, in a work like this, a task by no means of easy accomplishment. Notwithstanding these peculiar circumstances of difficulty, however, the duty of the translator has, on the whole, been well performed.

Our readers would probably not desire a complete analysis of this work, and for two reasons:—1st. It is one which most will desire to possess entire;—and 2d. It contains much which, though valuable, is to be found in other systematic writers. We shall, however, abbreviate some of its most interesting paragraphs, deeming them of great practical value to all medical readers.

The order followed in the treatise is founded on the valuable distinction of *systems* observed in his great work on general anatomy; thus we are presented with the pathology respectively of the serous, the mucous, the cellular, the fibrous, the muscular, the ner-

vous, the pulmonary, the glandular, the osseous, and the dermoid systems.

If Bichat had done nothing more for pathological anatomy than to introduce this order of inquiry, his labours would have been invaluable. It has furnished principles which have given to post mortem researches a precision they had never before known, and has enabled us to develop the organic nature of diseases which before had foiled our scrutiny. It was not till the stomach was shewn to be formed of distinct tissues, each characterized by peculiar vital properties and each contributing to the compound office of the organ, that we were enabled to develop morbid changes which are respectively peculiar to these textures, and to account for their derangements of function.

After some general observations upon inflammation, a disease common to many tissues, the author enters upon the

Pathology of the Serous System.—Our readers are undoubtedly aware of the susceptibility of inflammation and adhesion which characterize this system. The pleura, the peritoneum, the arachnoid, the tunica vaginalis, are all liable to inflammatory affections which, modified by the local relations of the parts affected, are designated as specific diseases. We more particularly notice, however, the observation, that into the serous cavities there is sometimes exhaled, with all the symptoms of suppuration, a sero-purulent matter in which there float shreds of an albuminous matter. Such an occurrence is almost necessarily fatal. [We have ourselves, not long since, witnessed an instance of this kind, which occurred in the peritoneal investment of the uterus. This organ had been for some time diseased with scirrhus, and became suddenly affected with acute inflammation. On the third day of the disease the patient experienced a severe ague, counterfeiting the paroxysm of an intermittent. Immediately after this there was a manifest fluctuation in the abdomen. The chill recurred on the 4th, and the patient soon sunk. The lower abdomen was found to contain two pints of turbid sero-purulent matter, containing flakes of lymph, some of which also adhered to the surface of the uterus.

We have heard it observed by Dr N. Smith, that when the typhoid pneumonia and pleurisy of 1812—14 prevailed in New England, the general disease, instead of the lungs and meninges of the brain most commonly affected, sometimes concentrated itself upon the peritoneum and often produced the sero-purulent accumulation which we have described.]

The serous membranes are also often affected with chronic inflammation resulting in thickening, adhesions, and dropsy. The chronic inflammation of the peritoneum is particularly important. It is characterized by tenderness and tension of the abdomen, stooping posture, irregular evacuations, dropsical effusions, &c. &c.—is generally fatal.

The author here speaks of miliary eruptions of the peritoneum, an affection of this membrane which he doubtless confounds with tubercles, the occasional existence of which in the peritoneum has been noticed by Laennec, and particularly described by Marshall Hall as noticed in the preceding article. Their existence is remarkably characterized by coldness and lividity of the extremities and countenance, together with wasting and abdominal derangement.

Diseases of the Mucous Membranes.—No department of pathology has of late been investigated with more zeal than this; we we have already had occasion to remark upon it in our analysis of Broussais and in our abstract of foreign medicine. We would here merely indicate certain principles of diseased action in these tissues.

The mucous membranes being destined to perform in a high degree both the secretion of some important fluids, and the absorption of others, must necessarily be extremely vascular, and hence particularly susceptible of vascular diseases, as congestion, hemorrhage, and the varieties of inflammation. Being designed also as the internal organ of sense in which are perceived the various instinctive wants, such as hunger, thirst, &c. and being designed to elect from the ingesta, by a discriminating perception, the pabulum vitæ, they must be in the highest degree nervous, and hence subject to irritation, painful affections, and morbid sensitiveness. The mucous membranes also, because they announce the wants of the whole system to the sensorium, must have numerous and important sympathies, and hence in disease must frequently influence morbidly remote organs, and also participate in their affections.

The inflammation of the mucous membranes often excites general fever, and their irritation often disturbs the sensorium. A slight degree of inflammation, however, especially in those of less important vital properties, is merely characterized by slight thickening and by redundant or morbid secretion of mucus, as occurs in catarrhs of the bronchial, cystic, uterine, and intestinal mucous membranes.

Aphthæ are points of ulceration observed in these membranes. They are frequently seen in the mouth, stomach, and intestines. [Dr Hewett has recently called the attention of the profession to an unsuspected frequency of follicular ulceration in the intestinal canal occurring in many febrile diseases and very much influencing their character. In our next we intend to present an analysis.] These ulcerations occur in severe dysentery. Polypi and fungoid excrescences are also morbid traits of the mucous membranes.

[Before leaving this subject we would observe that the researches of the French pathologists have rendered it quite certain that mucous inflammation is a much more frequent complication of disease than has heretofore been suspected. The existence of it in the stomach may be ascertained by the sensation of pain, irritation produced by ingesta, and especially by pressure upon the præcordia. It is to be treated with cupping, leeching, blistering over the region of the

stomach, the mildest aliments and gentle laxatives. The chronic affection of these membranes is also of frequent occurrence, being attended with peculiar symptoms in particular regions. In the stomach it is often termed dyspepsia, in the large intestines chiefly characterized by colic and looseness; in the lungs termed catarrh; in the urethra, gleet; in the vagina, leucorrhœa. The terebinthinate medicines are observed to have a salutary influence upon this affection wherever located. The balsam copaiba has of late particularly attracted the attention of both English and American physicians. It is found to be highly beneficial in both bronchial and intestinal irritations, and catarrhs. It seems to bear a general relation to the mucous membranes. It is given in 10 to 30 drop doses, in an emulsion of g. acaciæ and sugar, with the subsidiary employment of cutaneous counter-excitation by blisters, frictions and the tartar emetic ointment.]

The cellular tissue, according to Bichat, is the proper seat of phlegmon, furuncle, carbuncle, and also of the phenomena attending the process of ulceration, granulation, and the healing of wounds. Fistulæ and other indurations of the soft parts, such as those which produce stricture in the urethra, &c. are morbid alterations of this tissue. [We have briefly noticed, in No. 1, Mr Earle's account of the diffuse inflammation of the cellular tissue, heretofore termed edematous erysipelas.] Steatomatous, meliceritious and fatty tumours are often developed in the cellular tissue: œdema, emphysema, and morbid fatness are also characteristic.

Passing over many other articles, we notice briefly our author's observations on *diseases of the liver*. Its organic affections are morbid enlargement or wasting; steatoma; hydatids; granular concretions in its texture exceedingly small and numerous, often accompanying ascites, and always with wasting of the organ; lastly, the fatty state which he has observed in children, and which is frequently accompanied with a yellow hue. Often, in this state, there is enlargement, at other times not, but a wasting of the healthy tissue. The bile is sometimes obstructed by gall stones, sometimes by tumours.

[In conclusion of our brief analysis, we would urge upon our professional brethren, and especially those practising in the country, the more frequent employment of post mortem examinations than is customary at the present time in our country. If we mistake not, European physicians are much in advance of us in pathological anatomy, owing chiefly, indeed, to the superior facilities for such inquiries furnished by numerous hospitals. In private practice, however, the difficulties are not insuperable, and are daily diminishing. Were physicians assiduous in availing themselves of all such opportunities as occur in private practice they would soon acquire a discriminating tact in these inquiries and a familiar acquaintance with the more frequent morbid alterations of structure.]

Abstract of Foreign Medicine.

PATHOLOGY AND THERAPEUTICS.

Dr Thompson on Gangrenous Erosion in Children.—From an article thus entitled in the last number of the London Medical Journal, we extract the result of the author's experience and his practical conclusions. Dr Thompson appears chiefly to rely upon topical means, and in proof of their general utility he appeals to the unparalleled success of Dr Dease in their employment. The pathology of this formidable disease he does not attempt to explain. The article, on the local application of which he chiefly relies, is the balsam of Peru. This is not indicated upon any physiological principle, its salutary effects having been fortuitously ascertained. The part affected is to be constantly soaked by warm balsam smeared on lint. The sloughs are to be occasionally removed, great care being taken, however, to avoid contact of air, which is observed to be exceedingly injurious. Dr Thompson objects to the removal of the slough with the knife, and also to the application of caustic, as irritating too much the contiguous parts and diffusing the disease.

[Too little attention is in this article directed to constitutional treatment. The ordinary mode of exhibiting tonics and stimulants has not, indeed, exerted much influence upon this eager disease. We are happy to have it in our power, however, to state the experience of a practitioner in this city who has recently had occasion to treat several cases. In the first instance which fell under his observation, the ordinary tonics seemed inert, as did also the usual topical applications, such as the charcoal poultice, the fermenting poultice, &c. These cases progressed uninterruptedly to a fatal termination. He then resorted to the employment of very large doses of the sulph. quin. giving even from ten grains to a scruple at a dose, being resolved to make an obvious impression on the system. In every instance, unless very far advanced, he found it to arrest the progress of the disease.]

Dr Morton on Cutaneous Eruptions, (Lond. Med. & Phys. Journ.)—From ample observations made in the Royal Metropolitan Infirmary for sick children, Dr Morton has established the following principles relative to the treatment of cutaneous eruptions in children :

1. That, in all cases of cutaneous eruptions upon the heads of infants, (particularly if extensive) danger may arise from their artificial repulsion.
2. That, in cases where eruptions have occurred upon the scalp of infants subsequently to cephalic disease, dangerous or fatal consequences will most probably ensue, upon their intentional removal by local treatment.
3. That as astringent ointments, and other applications of a similar nature, are found by experience to have the power of speedily repelling the eruptions in question, they should not be employed, without their effects being carefully watched, and their evil tendencies promptly guarded against.

The treatment of these diseases, therefore, in infants should in every case be commenced with purgatives, and repellent applications should not be made use of without due caution; such as may be selected being at first extremely mild, and afterwards gradually increased in strength. If the patient, during their employment, should become drowsy, and sleep much, or lay its head constantly down, (a sure indication of the commencement of affections of the head in infants) they should be immediately discontinued, and purgatives be freely employed.

In cases where porrigo has attacked the scalp subsequently to cerebral inflammation, it will seldom be prudent to employ local applications at all, the cure being more safely accomplished by purgatives and alteratives.

Treatment of Gonorrhea by a new preparation from the Balsam Copaiba.

—Mr James Thorn, Member of the Royal College of Surgeons, London, has obtained from the balsam copaiba an extract which would appear to be exceedingly efficacious in gonorrhea. The preparation is obtained by distilling the balsam copaiba, when there will be expelled more than a moiety of exceedingly acrid and offensive volatile oil, leaving a brown resinous extract, becoming hard and brittle when cold. In this, according to Dr Thorn, reside all the virtues of the article. The following are cases illustrating its use reported to Mr Thorn by Mr Tyrrell:

1st case, ætatis nineteen; first gonorrhea. Discharge moderate and greenish; slight ardor urinæ; chordee had existed three days. To take Pil. Cal. c. Colocynth. grs. x. statim; to abstain from malt liquor or spirits. Ext. Copaibæ grs. x. (in pil.) ter quotidie.—Cured in three days.

2d case, ætatis twenty-one; second gonorrhea. Discharge profuse; ardor urinæ, and occasional chordee, existed six days. To take Pil. Calom. c. Colocynth. grs. x. statim; to abstain as the former. Pil. Extr. Copaibæ grs. x. ter quotidie, increased to grs. xv. on the fifth day.—Cured in seven days.

3d case, ætatis twenty; first gonorrhea. This young man had been for some days under my care for gonorrhea, which had existed for about three weeks before he applied to me: he had been taking the Cubebs without relief. I gave him the Balsam Copaiba with Sodæ Subcarb. and mucilage, but was obliged to omit it, as it acted so much on his bowels. His discharge was profuse, with slight ardor urinæ, but no chordee. To take Pil. Extr. Copaibæ grs. x. ter quotidie; to abstain as the other patients.—Cured in six days after commencing the pills.

4th case, ætatis forty; first gonorrhea. Discharge but little, no ardor or chordee; discharge greenish, has existed two days. To take Pil. Cal. c. Col. grs. x. statim; Pil. Extr. Copaibæ grs. x. ter die; to take one glass of wine, having been used to six or eight daily. Has been five days under treatment; discharge only apparent in the morning, but not quite well.

5th case, ætatis fifteen. This boy had suffered from gonorrhea for three months: he came to me with gonorrhea, phymosis, and inflamed prepuce. Ordered Catapl. Lini frigid. c. Lot. Saturni; Pil. Cal. c. Colocynth. grs. x. altern. noct.; to keep recumbent, support the penis and scrotum; to inject the lotion under the foreskin. In a few days the inflammation and phymosis subsided, leaving a profuse gonorrhea, without ardor or chordee. To take Pil. Extr. Copaibæ grs. x. ter die.—Cured in five days.—*Lond. Med. & Phys. Journ.*

Vaccination.—At a late meeting of the Academie de Medicine, M. P. Dubois read the Annual Report of the Commission for Vaccination in France for 1825. This report contains, among other remarkable things, a discussion on the fact that M. Kergaradec had communicated, from M. Guillon de St Pol-de-Leon, at a former meeting. It will be recollected that this physician asserted that he had produced the true vaccine influence with the matter taken from a varioloid patient; and, consequently, that this matter and that of the vaccine virus were the same. The commission in their opinion express doubts of the reality of the results that M. Guillon says he obtained. They cannot be persuaded that varioloid matter can produce vaccination, nor that there can be any identity between the diseases. But supposing it to be true, there are two reasons which should prevent any use being made of the discovery: the one is, that the varioloid is not easily distin-

guished from true small pox, except towards the end; it would therefore be to be feared that most practitioners would be deceived, and communicate the small pox instead of the varioloid or vaccine. The second reason is, that the efficacy of the vaccine virus being proved by thousands of proofs, it is unnecessary to seek a new antidote to small pox, where we already have one sure and free from danger.—*Revue Medicale*.

Speranza on the utility of Compression in Ascites.—In the *Journal des Sciences Medicales* is a case illustrative of the good effects of this remedy. A woman, of cachectic habit, was admitted to the Clinic Institute, with an enormous ascites occasioned by chronic puerperal peritonitis;—digestive organs disordered; urine scanty and turbid; stools unfrequent; thirst harassing. The most energetic remedies, usual in such cases, had been employed in vain. Paracentesis was forbidden by the peculiarity of constitution and by the loss of organic assimilation. M. S. at last resorted to compression by bandaging. Very soon the urine began to flow copiously; five pints were daily evacuated; in three weeks the belly was reduced to the natural size. By the use of tonic and cordial medicines, nutritious diet, and the continuance of the bandage, the recurrence of the disease was prevented, and the action of the digestive organs restored.

[The use of the abdominal bandage in ascites, and of the roller in anasarca, has long been a favourite remedy with Professor Smith of N. H. He has found it in a great many instances an indispensable adjuvant, the usual diuretics having but little effect until the requisite degree of pressure was effected. When the belly is excessively distended, paracentesis should be premised. If anasarca be present, the lower limbs should first be bandaged from the toes to the hips, and then the abdomen swathed. To scarcely any of those remedies which aid in the evacuation of water does he attach more value. Of course it is merely palliative when organic disease is present.]

Antimonial Frictions in Chorea.—A little girl, aged nine years, was affected with convulsive motions. Her friends first disciplined her for the purpose of correcting what they at first supposed to be merely a vicious habit; after this she was repeatedly purged; tonics were administered, and finally antispasmodics: the disease, however, grew worse. The head was then shaved and the antimonial ointment applied to it and to the back of the neck. The local effect was obvious; on the third day her motions became more regular: the cure was completed in the course of a month.—*Journal Universel des Sci. Med.*

Humorism.—M. Rochoux thinks that in diseases there occur alterations of the blood, and that this is the true cause of many of the phenomena observed in malignant peripneumony, as adynamia, ataxia, and delirium, when it occurs without encephalic inflammation. He also thinks that the carbonate of ammonia, seneca, tartrate of antimony, given after the method of Rasori, sometimes dissipate, upon this principle, with remarkable promptitude, the severe symptoms in certain cases of peripneumony.—*Journal Universel*.

Asthma.—Dr Chiarenti having observed the good effects of sudden exposure to the fresh air, particularly with the face opposed to the wind, in paroxysms of asthma, tried, during a paroxysm of this disease, to which he himself is subject, to introduce the tube of a pair of bellows into his mouth, and to blow with force a great quantity of air into the lungs. The event justified his attempt, and by the aid of this simple operation he can, in a very short time, overcome the most violent attacks of asthma. After repeatedly trying this experiment on himself, he tried it on others, and with the same success. Dr Chiarenti, from the numerous facts he has collected on the subject, believes he may confidently assert that this insufflation of air into the lungs is not only capable of instantly arresting a paroxysm, but even of radically curing the disease, provided it is not the result of organic alterations!!—*Annali Universali di Medicina*.

Colica Pictonum.—From an article in No. 13 of Johnson's Journal we condense the observations of M. Andral on painters' colic.

Heretofore it has been believed by many that in this affection the intestinal canal is more or less inflamed and, as the sensations of the patient would suggest, that its calibre is contracted, opposing an obstacle to the passage of its contents. From the researches of this discriminating author, however, it would appear that scarcely any organic derangements are appreciable. Five hundred patients have been within eight years past treated for this disease at La Charité; only five terminated fatally, and in all these the digestive organs presented, for the most part, a healthy aspect, there being scarcely a trace of inflammation, and the canal not being contracted.

In regard to symptoms, the author observes that the colic pains are not always diminished by pressure, nor is the abdomen always shrunk, but sometimes preserves its usual volume. Constipation is the most unvarying symptom. It is well known that in this disease the nerves of motion are strikingly affected and the muscles paralyzed. From this and other circumstances the author comes to the conclusion that the nerves of the alimentary canal are the root of the primary derangement, and that hence there results a defect in peristaltic motion, and perhaps in mucous secretions.

M. Andral objects to the antiphlogistic and emollient treatment as not approved by the experience of La Charité; he strongly urges the employment of drastic purges associated with occasional emetics, diluents and anodynes.

Inequality of Pulse in the two Radials.—This phenomenon is by no means uncommon; but we cannot always recognize the cause after death. In the following case, however, the cause appears to have been revealed by dissection.

A female died of pneumonia, the pulse having been intermittent, irregular, small and scarcely sensible in the right radial artery; while in the left arm the pulsations were strong, full and regular. On dissection, the right lung was found completely hepatized, and pressing on the subclavian artery of that side. The left lung was free from disease.—*Med. Chirurg. Rev.*

Broussais on Asthma.—M. Bonnez, assistant surgeon of the 10th regiment of Chasseurs, in garrison at Libourne, aged 36 years, had the imprudence to bathe in a river, after a hearty dinner, on the 18th of July. In the middle of the night he was seized with general malaise, succeeded next day by fever, head ache, coryza and cough. During the night of the 19th he had no rest. On the 20th the phenomena changed into a complete attack of convulsive asthma, (the second paroxysm which he had experienced, the first being three years before) and he then sent for his medical colleague. Ten ounces of blood were taken from the arm, and pediluvia applied to the feet. By these means the symptoms were relieved, and the night of the 20th was spent less miserably. 21st, the paroxysm returned, and continued till near the evening. The anhelation this day was very distressing, and an antispasmodic julep was ordered, which augmented the dyspnoea, and brought on another paroxysm of asthma. The night was spent in a state of agitation. 23d, Ipecacuan had been taken in small doses, and also castor; but the paroxysm returned this day with as much violence as before. 24th, the asthmatic paroxysm came on at the usual hour, six in the evening. On the 25th, Dr Bagard was called in, and found the patient with the following phenomena:—dejected countenance—eyes sunk—breathing short—pulse small and quick—tongue coated—great tenderness at the epigastrium—oppression under the sternum—abdomen rather tense—urine scanty and high coloured. Sixteen leeches were applied to the sternum and epigastrium, the bites to be encouraged by cataplasms—very low diet—diluent—lavements. The succeeding paroxysm (26th) was very much milder, being only a simple dyspnoea. 27th, when Dr B. visited his patient, the latter observed that he was quite well, and had a strong desire for food. But it was evident that the patient was not well. At the usual hour, the dyspnoea returned, accompanied by some cough. 28th, felt very well all day, till six o'clock, when the dyspnoea returned as usual. Dr B. now being

struck with the periodicity of the complaint, and seeing nothing wrong with the digestive organs, prescribed the sulphate of quinine, in doses of three grains every three hours. The next paroxysm was prevented. The remedy was continued for three days, and the patient was free from complaint. On the 6th of August, however, when M. Bonneze thought himself in complete security, he was suddenly seized with pain in one side of the chest, with fever, cough, head ache, &c. Cupping glasses were applied to the side, and afterwards a large blister. But these means were of no avail. The symptoms became exasperated, and the sputa sanguinolent. When Dr B. was again called to the patient, he found him with violent head ache, acute pain in the right side of the thorax, intense fever, full pulse, burning skin, and countenance indicative of despair. It was now evident to Dr B. that the inflammation had spread from the mucous membrane to the pulmonary parenchyma and even to the pleura. Dr B. advised the application of 25 leeches to the chest; but the regimental surgeon protested against any more leeches, and our author took his leave. Two other physicians were called in, and ventured on the abstraction of six ounces of blood from the arm. This made no impression on the complaint, and Dr Bagard was recalled. He applied 25 leeches to the chest, which, with a blister, completely removed the disease.

M. Broussais's Remarks.—Most cases of asthma depend on some obstacle to the course of the blood; and this obstacle is most commonly a disease of the heart. This, however, is not always the case. A determination (however induced) of blood to the mucous membrane of the lungs, in a sanguineous subject, will often give rise to a paroxysm of asthma, as was the case in the above instance. M. Broussais has known inflammation and irritation in the mucous membrane of the stomach and bowels induce a fit of what is called spasmodic asthma. The Professor ridicules the distinction drawn between dry and humid asthma. Every asthma is dry at the commencement of the paroxysm, and the mucous membrane ultimately throws out a secretion which relieves the vessels of the lungs. In all cases, however, of asthma, M. Broussais avers that there is a congestion of blood in the vessels of the membrane lining the bronchia and air cells, and that this should be looked upon as the proximate or immediate cause of the phenomena, and treated accordingly.—*Journ. de la Med. Physiol.*

ANATOMY AND PHYSIOLOGY.

Mr Searle's Analysis of Dr Barry's Memoir.—A notice of a work thus entitled we find in No. 12 of the Lond. Med. & Phys. Journ. Our readers will recollect that Dr Barry has recently advocated with great earnestness the agency of atmospheric pressure in the circulation of the blood, and in venous absorption. By numerous experiments he has laboured to shew that the respiratory expansions of the chest, producing a tendency to a vacuum in that cavity, will cause an afflux of blood, as well as of air, to that cavity, and that hence the great veins near the heart will have their contents pumped forward into that organ. Dr Barry has also endeavoured to prove that the smaller veins feel the same influence, and that their contents are solicited forward towards the heart; and not only this, but that by the same means the arterial blood is urged into the veins, and that thus venous absorption is mechanically effected.

The analysis of Mr Searle, which is here noticed, is designed as a refutation of these propositions. Mr Searle details experiments in which the heart in an animal was so exposed as to admit the atmosphere to its surface, and yet the circulation continued uniform, thus appearing to disprove the importance of the respiratory movements in the circulation.

Subjoined to the notice of Mr Searle's strictures is an extract from a work by Dr Arnott. In this there is manifested much surprize that Dr Barry and others, in their speculations, should have entirely overlooked certain well known laws of hydraulics. Dr Arnott lays down two propositions as incontrovertible—1. "The veins are pliant tubes, free to collapse, and no pump can lift liquid through such. 2. The suction power of the chest, in ordinary respiration, is too weak to lift

liquid a distance of even one inch through tubes of any kind.”—In proof of the first he adduces the result of an experiment which is made by attaching a small intestine, filled with water, to the pipe of a syringe, and then attempting to empty it by suction. It will merely collapse round the beak of the tube, and not a drop will be absorbed from the part beyond. In proof of the second he avers that we cannot, by sucking through a rigid tube, raise water, even with the aid of the expansion of the mouth, more than two feet.

[We had, ourselves, done the first experiment of which Dr Arnott speaks with the intestine of a cat, and the result was precisely what he describes, and such as every one, at all acquainted with the laws of fluids, would have anticipated. We have never placed the least confidence in that part of Dr Barry’s theory respecting the general circulation and venous absorption. We are persuaded, however, that the expansive effort of the chest exerts by no means an inconsiderable influence in emptying the great veins in the vicinity of the heart.]

SURGERY.

Inflammation of the Veins cured by Compression.—This remedy was employed with success in a case which we epitomize from the *Journal Universel*. A lady had a painful affection of the right leg, which she regarded as cramp. Notwithstanding the use of emollient and narcotic cataplasms, the warm bath, &c. &c. the disease progressed, the pain becoming intense and the limb heavy to the patient. Soon there occurred redness and extreme tenderness along the whole course of the *vena saphena*. Cataplasms aggravated the pain. She was bled to the amount of six ounces, a lymphatic temperament forbidding the abstraction of more blood. This gave temporary relief. Soon, however, the symptoms recurred with renewed violence; the vein felt like a knotted cord under the finger from the ankle to the thigh. Saturnine lotions availed nothing. It was then that the practitioner resorted to the use of a roller compressing the vein along its whole length. A numbness and pricking sensation immediately followed, but soon the patient became quiet, and the continuance of the remedy gradually dispelled every symptom. The employment of leeches in this case was forbidden by the exhaustion of the patient, and the apprehension that, in consequence of her irritable habit and fatness, the bites would inflame.

Compression in the Treatment of Cancer.—M. Récamier has cured, by means of a bandage properly adjusted, six cases of chronic engorgement of the breast, exhibiting the scirrhus character. The cure of many other cases was, at the time of his reporting, progressing.

[We think the employment of this remedy well worthy of repetition, and are the more confident in its occasional benefits, from having often witnessed the result of compression of the breast by bandages, in cases of old mammary abscesses improperly treated. In those cases in which the whole breast has become indurated and perforated with numerous fistulous openings, firm compression, by the bandage and the proper adjustment of compresses, has been of infinite advantage. The best bandage for the purpose is a wide roller. It should commence from the shoulder of the sound side, and be carried obliquely beneath the diseased breast with a view to press it upwards. The roller is then to be carried beneath the axilla and brought round to the place of beginning. This turn is to be two or three times repeated, and then the bandage is to be carried round the body so as moderately to press the diseased breast to the chest.]

Rupture of the Aorta without Aneurism.—In No. 13 of the *Lond. Med. &*

Phys. Journ. is related at length a fatal case in which there occurred an extensive rupture of the aorta near its arch and on the concave side. There had been no previous dilatation, but the tunics were obviously morbid, the internal surface of the artery presenting an irregular thickened appearance from the presence of numerous flattened steatomatous tubercles. It was very friable. From appearances it was judged that the internal coat first gave way, and that the cellular tunic had restrained for a time the effusion of blood. Another case is related, on the authority of Mr James, Surg. of a healthy sailor who died instantly, while at rest in his hammock, from the rupture of the aorta near the heart; the artery presented no appearance of morbid degeneration.

Fracture of a Cervical Vertebra by Muscular Contraction.—This case* is detailed in the Archives for March. A soldier, an excellent swimmer, plunged head foremost into the Sambre. His companions seeing him struggle for some minutes, thought him in jest: but, perceiving that he became motionless, they ran to his assistance and dragged him out. On recovering his senses there was found neither fracture nor dislocation, but the limbs were paralyzed—he could not support his head—skin insensible—severe pain in the lower part of the back of the neck, without any external wound—priapism, and frequent desire to make water. The patient stated that, at the moment when he made the plunge, he recollected that the water was shallow, and suddenly drew his head back to avoid dashing it against the ground, and that at this instant he lost all consciousness. Delirium came on, and in the night the man died.

Dissection.—The meninges were of a deep red, and the vessels of the brain itself injected. There was sanguineous effusion around the vertebral column; the spinal canal, *without* the dura mater which was sound, was full of blood, and, finally, “the body of the fifth cervical vertebra was fractured transversely, a little below its middle, so that the two plates of this bone were separated from the lateral masses.”

This case is curious; but it is not improbable that the force with which the person plunged into the water aided the spasmodic contraction of the muscles in producing the fracture of the vertebra.—*Med. Chirurg. Rev.*

Incisions in Erysipelas Phlegmonodes.—We see, by a report from Bartholomew's Hospital, that Mr Lawrence supports the method of treatment by incisions. A man had received a blow by a fall on the elbow. Erysipelatous inflammation followed, involving not only the skin but the cellular membrane of the arm. Much constitutional fever and irritation were set up, and Mr Lawrence resorted to incisions carried the whole length of the inflamed parts, one being ten and the other twelve inches in length. The exposed cellular membrane was found inflamed and thickened, and some dusky effusion, with a mixture of pus, was evolved from one of the incisions. The wounds bled freely, and all redness of the arm soon disappeared. Although some sloughing of the cellular membrane and integuments ensued, with considerable constitutional disturbance, yet the patient did well, and quickly recovered.—*Lancet*, No. 186.

* By M. Réveillon, Royal Academy of Medicine, sitting of the 8th of February.

Nugae.

In a city not very remote from this there *flourishes* a Phrenological Society which, in its wisdom, recently appointed a committee to use the craniometer upon the head of a person charged with several acts of murder committed under circumstances indicating a shocking destitution of moral sense and even of human instinct. The evidences of guilt, confirmed by confession, were sufficient to satisfy even the fastidiousness of an American jury; nothing was wanting but the fiat of the craniologists. They came, but great was their astonishment, on examining the head of the culprit, at the entire absence of the organ of destructiveness. It is reported of these sages, that for a time they stroked their beards in utter amazement. Had they been merely sustained by the worn out logic of facts and inferences they would certainly have been confounded. But the mystical light of the science, though the very blackness of darkness to all but the initiated, to them only shone the brighter, and after twelve hours of sapient silence, by infallible intuition they came to the conclusion that the accused must necessarily be innocent, because the falsehood of twenty witnesses was far more probable than that of one phrenological bump, which could neither be bribed nor deceived.

We rejoice that at length we have something tangible which we may oppose to the Vandals who would trample upon this science of BUMPS. Will you ever again demand evidence of its utility, gentlemen revilers? Wise men, who look into the visioned future, are of opinion that, in moral science and jurisprudence, phrenology will effect the same revolution which the steam engine is accomplishing in physics and navigation. They are persuaded that the time is at hand when courts and juries shall be abolished and the sword of justice, wielded by a council of phrenologists, shall strike only at heads which nature has stamped with crime; and perhaps in cases where murder is plainly written upon the cranium will decapitate the wretch even before he shall have had an opportunity to shed blood. Thus many valuable lives may be saved to the community and fine specimens be obtained for the cabinets of the curious.

Intelligence.

London University.

The following professors have been appointed:

Botany and Vegetable Physiology—William Jackson Hooker, LL.D. F.R.S. F.L.S. Professor of Botany in the University of Glasgow.

Zoology—Robert E. Grant, M.D. F.R.S.E. F.L.S.

Anatomy and Physiology, Morbid and Comparative Anatomy, and Surgery—Charles Bell, Esq. F.R.S. F.L.S. Professor to the Royal College of Surgeons; John Frederick Meckel, M.D. Professor of Anatomy and Physiology in the University of Halle in Saxony; Granville Sharp Pattison, Esq. late Professor of Anatomy and Surgery in the University of Maryland, United States.

Nature and Treatment of Diseases—F. Conolly, M.D.

Midwifery and the Diseases of Women and Children—David D. Davis, M.D. M.R.S.L.

Materia Medica and Pharmacy—Anthony Todd Thomson, M.D. F.L.S.

To Subscribers.

There has been a delay of a few days in the publication of one or two of our numbers from circumstances which no longer exist. Hereafter we shall publish punctually on the 15th of every month.

We are resolved that the liberal patronage which has thus far been bestowed upon our labours shall never flatter us into a careless or languid discharge of our duties. Should our subscription list increase as rapidly as it has done we hope to enlarge our work. Whatever avails may accrue above the actual expense will be appropriated to its improvement.

We have just received several valuable English works which we shall analyze for our next.

THE
PHILADELPHIA MONTHLY
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VOL. I.

October 1827.

No. V.

Essays.

ART. I.—*Remarks on the Spontaneous Suppression of Hemorrhage in cases of Divided and Wounded Arteries, with Comments on the Physiology and Pathology of the Circulating System. By Nathan Smith, M.D. Professor of Surgery, &c. in Yale College.*

THE very popular treatise of Dr Jones on the process employed by nature in suppressing hemorrhage is, I believe, still regarded as a sufficient and satisfactory explanation of the phenomena of which it treats. In surgery his deductions are, I believe, generally received as principles, and his opinions quoted with confidence; nor am I aware that they have been controverted by any recent author.

If, as I believe, I correctly understand the general conclusions of Dr Jones, the causes which he assigns for the spontaneous suppression of hemorrhage, in cases of divided arteries, are purely mechanical, that is, the blood does not cease to flow by the cessation of any vital action in the artery, but is suppressed by physical obstacles which result from the division of the artery and the wounding of contiguous parts. He mentions indeed the vital action of the artery, but he supposes this to employ mechanical means for accomplishing the effect.

In treating of the pathology of the arteries Dr Jones, and others who have discussed this subject, regard the propulsive power of the heart as the sole cause of the effusion of blood, not taking into ac-

count any independent vital action of the artery itself as influencing the current of that fluid.

The first cause which Dr Jones has assigned for the spontaneous suppression of hemorrhage, in cases of divided arteries, is a contraction of the wounded organ, both in length and calibre. It is not asserted, however, that this double contraction immediately closes the mouth of the divided vessel. The second cause is lateral pressure made on the extremity of the bleeding vessel by the blood being thrown back on the artery and injecting the cellular sheath. The third is the formation of a clot or coagulum of blood within the mouth of the artery, and also of another exterior to it, but attached to the mouth of the vessel, adhering to its cut edge, and closing its orifice. Lastly a diminution of the impetus of the circulating blood, occasioned by the hemorrhage.

Now if, on careful observation, the same effect, which has been attributed to the co-operation of all the above causes, is ascertained to be produced under such circumstances that no one of them can be supposed to have the smallest influence, we shall be compelled to seek for other causes, and to adduce some principle in explanation of these phenomena which Dr Jones has overlooked.

If we carefully examine each one of the causes to which Dr Jones has ascribed the suppression of hemorrhage, we shall find that no one is adequate to the degree of influence which he supposes. The spontaneous contraction of the artery is in itself certainly not sufficient, for no artery is capable of that degree of contraction which shall obliterate its own calibre; consequently it can only diminish the stream of blood.

The lateral pressure, effected by means of blood injected into the cellular tissue around the artery, certainly cannot be supposed to occur when the artery is completely divided together with the adjacent parts, as in amputation; because there is then nothing which may repel the jet of blood and throw it back into the arterial sheath. Arteries thus severed, however, cease to bleed even more promptly than when divided under different circumstances.

In amputating the thigh I have in two instances tied only the femoral artery, all the others ceasing to bleed almost immediately, without the use of any mechanical means. One of these patients was a child six years of age—the other a young man of less than thirty. Both survived the operation and are still living.

In three instances I have amputated below the knee, when I had no occasion to tie any artery, and in neither of these cases was

the action of the heart and arteries remarkably depressed, nor did there occur, at the time of the operation, any unusual degree of faintness.

Respecting the coagulum of blood which is supposed to be formed at the orifice of the divided artery, and to oppose an obstacle to the further effusion of blood, we can scarcely conceive how it can be formed in the mouth of the vessel while it is still emitting a full stream of blood; hence it would seem to be rather the *effect* of the suppression than the cause of it, and is probably formed from some of the last drops effused. Perhaps, however, it may still be thought that although the coagulum does not itself suppress the hemorrhage in the first instance, yet it may prevent any subsequent effusion. This, indeed, appears plausible, but there are certain facts which render it quite improbable that even thus much is effected by it.

In cases of arteries wounded under circumstances calculated to favour the greatest possible degree of lateral pressure, and the formation of a firm coagulum, these causes are found to be by no means adequate to the suppression of hemorrhage. I have witnessed a considerable number of cases in which deep seated arteries of the limbs have been wounded by sharp pointed and narrow instruments, when the soft parts have become very much injected with blood and the hemorrhage long enough suppressed to ensure the fullest effect from the lateral pressure of blood and the formation of a coagulum, and yet the bleeding has recurred again and again, and only been suppressed by tying the artery which has been but partially divided. Such cases must have occurred in the practice of almost every surgeon.

The rationale of Dr Jones does not in a satisfactory manner explain the fact that arteries, which are suddenly broken by a violent pull, do not emit blood so furiously as those which are divided by a sharp cutting instrument. In many cases, in which arteries, and those of very considerable size, are torn off together with a limb, there occurs no hemorrhage. Several instances of such accidents are upon record and familiarly known. A remarkable case of the kind recently happened in Vermont and has been reported by Professor Mussey. The arm, together with the scapula, was torn from the body by a mill wheel; there occurred at the time but a very trifling effusion of blood, nor did there follow any secondary hemorrhage, although no ligatures were employed.

Now we should be inclined to think that such violence done to the contractile textures of the artery would so paralyze them as to

destroy their vital power of contraction; and as it often happens that scarcely a drop of blood is effused at the instant of the separation, we should hardly suppose that the coagulum can form so promptly as to contribute any thing to the effect, but should be rather inclined to ascribe the absence of hemorrhage, in such cases, to a loss of vital power in a portion of the artery which is left attached to the body.

The following cases strongly favour the supposition that blood will not be propelled by the heart through a portion of an artery which is inactive, although it remains perfectly open, and the heart acting at the same time with its usual force.

In the year 1802 I was consulted by a patient on account of an obstinate ulceration upon one of his great toes. On examination I found the affection to be dry gangrene. The whole of the last joint was dead, and it had progressed half way up the second. I was not at that time aware that such affections are generally accompanied with ossification of the arteries of the leg. As the sound parts were sufficient to cover the end of the bone, if amputated at the first joint, I performed the operation. I was much surprized on observing that, although I used no tourniquet, there did not a drachm of blood follow the knife.

The operation, however, did not subdue the disease; the gangrene recurred in the stump, and gradually extended up the foot as far as the instep, which assumed a dark red hue, became hard to the feel, a little enlarged, cold and extremely painful. Whenever any thing stimulating was applied to the part affected it greatly aggravated the pain and hastened the progress of the gangrene. Warm applications, of the temperature of the body, produced intolerable anguish.

Several months after the first operation I again saw the patient, found the disease advancing and the foot exhibiting the same appearances described above. His pulse at the wrist was strong and full, and there was no want of force in the action of the heart and large arteries of the superior extremities; his muscular strength was not much reduced. The pain endured by the patient was so severe as not to be subdued by opiates.

From the circumstance that the part on which I had at first operated was in an unnatural state, the greater part of the foot having been changed in its structure and become cold, swollen and hard to the feel, while the soft parts above the ankle were quite natural in appearance and feel, I was induced to hope that, if the diseased

member were removed above the ankle, the operation might result more favourably than in the previous instance. I therefore advised to remove the foot, at the same time informing the patient that should the operation not succeed agreeably to our wishes, yet, as the stump would be a less sensitive part than the foot, there would probably be less pain. The patient, more desirous to be relieved of his intolerable anguish than to protract his existence, readily consented.

In this operation I employed no tourniquet but directed a pupil to compress the artery with his hands. After cutting through the soft parts, and while turning back the flaps, I perceived something hard in the flesh, and felt something crush under my fingers.

After sawing the bone, and when I came to look for the great arteries, I found them all in a state of complete ossification. They were, indeed, mere tubes of bone, and I had broken them in the flesh above the place where they were divided in the operation. I dissected out that portion of the posterior tibial which was thus broken, an inch and a half in length, and found it to be an osseous tube with a perfectly free calibre.

Though all pressure was immediately removed from the artery above, and no other means were used to suppress the hemorrhage, yet not half a table spoonful of blood followed the operation. At the same time the action of the heart and of the arteries at the wrist was vigorous. Although this last wound never healed, yet the vigour of the patient's constitution protracted his life for between two and three years after this event.

This case in my mind overthrew the whole of Dr Jones's theory of the suppression of hemorrhage in divided arteries. Here certainly there was no contraction in length or breadth, nor was there any lateral pressure. The orifices of the divided arteries stood permanently open, and their canals were entirely unobstructed. Surely we cannot suppose that coagula were formed while I was cutting through the divided arteries, for no blood of any consequence followed the knife.

There was an important circumstance attending this case which remains yet to be explained, and which I could not at first comprehend. There certainly must have been some blood conveyed by those ossified arteries previously to their division,—otherwise there could not have been maintained, in the foot, the degree of action which actually did exist. Had the blood been conveyed to the foot by the anastomosing branches, as occurs in the application of a liga-

ture to a large artery, these collateral branches should have been enlarged, and should have bled freely on being divided.

What then, let us inquire, could have so immediately suppressed the flow of blood in these ossified arteries on their being divided, there being no mechanical obstruction of any kind to its egress ; or rather what power could have maintained in these arteries the flow of blood which so instantly ceased on their division ? The *vis a tergo* of the heart was certainly not diminished.

The solution of these queries, which to me appears most satisfactory, is the supposition that the active power, lost by the division of the arteries, resided in the capillary system of blood vessels in the foot.

That the capillaries exercise a control over the current of blood in the large arteries, promoting its transmission, is rendered highly probable by numerous facts which may be adduced. It is well ascertained that when arteries are partially divided, the hemorrhage is often obstinate, even in small vessels, and although suppressed for a time by mechanical pressure, or by weakened circulation from loss of blood, yet the bleeding will repeatedly recur, till subdued by the application of a ligature, or the complete division of the artery ; for it is well known that the latter, unless the artery be very large, suppresses the bleeding.

Now these facts have been accounted for by the supposition that while the artery is only partially divided, it cannot effectually contract ; but in the case of the ossified arteries, the blood ceased to flow as soon as they were divided, although there occurred no contraction to which that event might be attributed.

There are other facts relative to the case in question which should not escape observation. When any thing warm or stimulating was applied to the foot (this being colder than the other parts of the body), it greatly increased the pains. This I apprehend to have arisen from the action of the capillaries being excited beyond the degree corresponding to the quantity of blood received through the ossified arteries, which unavailing action of the capillaries may be supposed to have created much pain.

(To be continued in our next.)

ART. II.—*Principles of the Pathology of the Digestive Organs.*
By the Editor.

Every new fact or legitimate inference which contributes to extend our views or modify our opinions of the function of an organ or apparatus must, in a corresponding degree, influence our rationale of the diseases of that organ or apparatus, and of their morbid relations to other organs and to the general system.

I have heretofore objected to the physiology of the digestive organs, on which are grounded the pathological principles that at present obtain. I have endeavoured to expose the fallacy of many of those circumstances which indicate the reception of alimentary matters into the circulation by the lacteals alone.

By experiment and induction I have laboured to prove that many fluid aliments are absorbed by the veins of the stomach and intestines, conveyed by the vena portæ to the liver and in that organ assimilated to the circulating blood. I have also presumed to call in question the supposed existence of a gastric juice possessing the remarkable chemical properties ascribed to that fluid, and have advocated the position that the conversion of many aliments into a homogeneous semi-fluid, fitted for absorption, is accomplished in the alimentary mass by an interchange of principles, facilitated by a vital influence exercised by the stomach upon its contents.

The absorption of alimentary matters by the veins of the stomach, recently illustrated by experiments reported in this Journal, I now propose to pursue pathologically. Should I be enabled, on this principle, to explain, in a more satisfactory manner than has been hitherto done, certain phenomena of abdominal disease, while, at the same time, my inferences are consistent with well established principles, our physiology and pathology will reciprocally illustrate and confirm each other, and may perhaps indicate therapeutic principles which will give new precision to the application of remedies.

Morbid Relations of the Liver to the General System and to Particular Organs.—I believe it has been generally admitted that the offices heretofore assigned to the liver in the animal economy by no means correspond to the variety of its diseases and the control which they exercise over the general system. The physiological doctrines of the present day assign to this voluminous and complicated organ scarcely any other function than the secretion of bile. This fluid is regarded as by no means one of the most important

agents concerned in the elaboration of alimentary fluids, and by many is supposed merely to qualify the residuary mass and to excite the peristaltic action of the alimentary canal. Some, indeed, have conjectured that, on being blended with the chyme of the duodenum, a double elective interchange takes place, by which chyle is precipitated from the mass. This assumption, however, is precluded by the fact ascertained by Hunter, that chyle is sometimes formed independently of this secretion. We also know that in obstructions of the biliary duct, when from the colour of the fæces we have reason to infer the total absence of bile from the alimentary canal, digestion still goes on, although in an imperfect manner.

From the pathological history of the organ there must be drawn a very different inference in regard to its relative value in the economy. Scarcely any of the constituent organs of the human frame are more liable to be morbidly influenced, either by the immediate agency of morbid causes or by sympathetic participation in the diseases of associated organs.

Many diseases, some of them of a very grave character, seem primarily to influence the hepatic apparatus, and through it, to disturb the system. This is true in regard to many diseases of miasmatic origin, as the endemics of sultry climates, intermittent and remittent fevers, many of which are termed bilious from the remarkable hepatic derangement which characterizes them.

The liver is also often the primary seat of acute inflammations, and very often of chronic affections which result in marasmus, dropsy, or fatal diseases of sympathizing organs.

This interesting organ also displays in disease many striking and some, as yet, inexplicable sympathies. One of these is with the skin, another with the stomach and a third with the brain. Blows upon the latter organ have been often observed to produce abscess of the liver, and organic affections of the latter sometimes manifest themselves only by functional derangement of the brain*.

It cannot indeed be otherwise than that an organ, through which is transmitted more blood than through any other excepting the

* A case illustrating this principle recently fell under my observation. The patient had for a considerable time manifested cerebral symptoms; she at length died comatose. There had previously been some pain in the right side, but it was scarcely regarded by the patient. On examination I found the liver much disorganized, as well as a part of the adjacent lung. The brain, to my surprize, exhibited no appearance of disease.

lungs and perhaps the brain, should greatly influence the general circulation, not only disturbing its equilibrium and causing congestion of particular organs, but modifying the chemical constitution of the fluid; for we cannot suppose that blood ever passes through the parenchyma of an organ like the liver, without undergoing important changes. According to our hypothesis, to qualify the fluids which it receives is one of its most important offices. The influence which it exercises on the character of this fluid in disease strongly confirms our assertion. The hue of all those parts which derive their complexion from the presence of blood, and especially the countenance in which they are more appreciable, is observed to be greatly influenced by derangements of the liver. Asphyxia of the lungs is indeed scarcely more strongly expressed in the complexion than are the diseases of the liver.

In general pathological importance, therefore, we must associate the liver with the brain, the lungs and the stomach.

Pathological Relations of the Liver to the Stomach and Intestinal Canal.—So intimately are the liver and the stomach associated in diseases, that every practitioner has experienced the difficulty of the diagnosis of their affections. So promptly indeed do they participate in the morbid affections of each other, that their functions seem often to be simultaneously impaired.

By the theory of digestion generally adopted, this association is accounted for on the principle of nervous sympathy. That impressions are occasionally thus made by one organ upon another, by the medium of the sensorial centre, and where, as in this case, there exists no obvious nervous apparatus for more direct communication, is undoubtedly true, but we are not warranted in resorting to this supposition, provided there exists any more direct nervous or vascular communication, adequate to the effect. But if, as I assert, alimentary matters are absorbed by the veins of the stomach, and conveyed to the liver for the purpose of assimilation, every morbid aberration of the vascular functions of the stomach must be immediately felt by the liver. The stomach, in a state of disease, will often cease to exercise with precision its elective sensibility, and substances will be absorbed which will preternaturally excite the liver, and which that organ will with difficulty reject or assimilate to the circulating fluids. These principles, being rejected in the bile, will morbidly influence the chemical constitution of that fluid, which, in turn, will irritate the intestinal canal.

But it is not from the cavity of the stomach alone that the portal veins absorb. It has, as I think, been satisfactorily ascertained that some parts of the ingesta are imbibed by the veins of the small and large intestines, and we know that pathological relations similar to those which exist between the stomach and liver are manifested between the latter organ and the intestinal canal, partly accounted for, indeed, by the more immediate connection established between these organs by the hepatic duct. It is obvious that, if the veins of the intestines absorb, this function will not always be performed in a healthy manner and, when not so, will transmit to the liver substances which will morbidly impress that organ.

Action of Morbific Causes on the Hepatic System.—The first of those lœdants which are ascertained to bear a particular relation to the liver are unwholesome and redundant aliments. Of all those causes which impair the functions of the digestive organs, these are undoubtedly the most prolific. The abuse of a function must necessarily exhaust its energy, and by preternatural excitation of its organ will eventually induce structural disease.

If an apparatus of organs be over exercised in their function, the symptoms of disease will be first manifested by that organ which is called upon for the most vigorous exercise of its office. This, indeed, is a pretty just criterion by which to determine the relative value of associated organs.

But no organ of those concerned in assimilation more readily feels the impression of these causes than the liver. A very large proportion of persons who live luxuriously die with hepatic disease. There is indeed a kind of organic derangement resulting from these causes which is uniform and characteristic of them. It is a state of the liver which is described by Bichat in his *Pathological Anatomy*. The organ seems to be in a great degree converted into a congeries of granules, of a yellow colour and in appearance very much resembling the yellow mustard seed. The external aspect of the organ is also much changed; it becomes withered and retracted towards its attachments; is of a pale, yellowish hue, much harder than the healthy organ, but also more friable. This state of the liver is very commonly associated with ascites and is then undoubtedly its cause.

I have had an opportunity to examine several cases of this kind, which presented a very uniform aspect, and all of which were induced by very luxurious living. Other forms of organic disease

undoubtedly result from the same causes, acting upon a peculiarity of constitution, or associated with other circumstances.

That the stomach also suffers under the influence of the same causes, and that it is often the primary source of derangement, is acknowledged, but disease of the liver is certainly a more characteristic result.

The etiology of these affections is commonly explained on the principle of sympathy, the impression being made on the stomach and thence imparted to the liver. But if the secretion of bile, for the completion of digestion in the duodenum, be the principal office of the liver, and if there exist no other association of function between this organ and the stomach, is it not surprising that the liver should be the organ chiefly affected by abuse of the digestive function? The pathology of the organ should certainly harmonize with its physiology, and the one illustrate the other.

But if it be true, as we maintain, that many aliments are imbibed by the veins of the stomach, and digested in the tissues of the liver, we have at once an adequate and satisfactory explanation. If the stomach be loaded with a variety and redundant quantity of rich food, every avenue, by which it gains access to the circulating fluids, will be gorged; the liver, as well as the stomach, will be immediately called upon for an over exercise of its assimilating powers; the bile elaborated in part from those crude substances which it receives will be of an unhealthy and acrid quality, and for a time preternatural in quantity. The powers of the organ will at length become exhausted, its vessels choked and its nutrition impaired, and, although at first tumid and injected with blood, will at length become withered, disorganized, hard and impervious.

Morbid alteration in the structure of the liver is well known to be the uniform result of the excessive use of intoxicating liquors. We have every reason to believe that alcohol influences the system, at least in part, by the medium of the circulation. When injected into the blood vessels, as was done by M. Segalas whose experiments were noticed in our first number, it produces the same symptoms of intoxication as when taken into the stomach. The same ensues also if the stomach be excised in the experiment. In confirmation of the same idea, it was observed by the same experimenter that, when ardent liquors are blended with oils in the stomach the intoxicating influence is less, because oils always retard absorption; so also if ammonia be exhibited, its effects sooner cease, because this article uniformly excites the depurating organs.

In the physiological experiments, reported in No. 2 of this Journal, it will be recollected that we presented unequivocal facts in favour of the absorption of fluids from the cavity of the stomach, chiefly by the veins of that organ. Alcohol, being one of those fluids capable of being absorbed, is therefore conveyed immediately to the liver, and will of course make its most powerful impression upon the capillary tissues of the organ whose office it is to modify or reject such foreign substances as seek admission into the circulation. Upon this supposition it is a necessary inference that the liver must be the organ which will first and principally feel its deleterious influence.

If alcohol be absorbed only by the lymphatics of the stomach, or if it operate on the system only by the medium of the nerves, it becomes a matter of no small difficulty to account for its especially affecting the liver.

Modus operandi of Medicines upon the Liver.—The obvious and immediate influence which many medicines exercise upon the liver also furnishes evidence of the liability of this organ to receive impressions through the medium of the stomach, and of the importance of its pathological relations to that organ. Medicines administered to a healthy individual produce disease, and often in their therapeutic application we seek to remove disease by exciting abnormal action in another organ.

There are many purgative medicines, some even which operate very promptly, that seem chiefly to influence the liver, greatly increasing the proportion of hepatic excretions, and giving a bilious aspect to the fæces. Sometimes indeed vitiated bile seems to constitute the principal part of stools thus produced.

I admit that many medicines manifest an elective affinity for particular organs, and that however they may be introduced into the system, they produce a uniform result. This, however, does not furnish an objection to the supposition that many of these medicines operate immediately on the liver, because some of them, and especially calomel, seem most to deterge the liver and intestines when they influence the system least; and when their force is spent upon the latter, very often no purgative effect is produced. If it is through the medium of the general circulation, or by means of the nervous system, that the liver is purged by calomel, we should expect that this effect would be oftener conjoined with salivation. I, however, suppose it to be in part taken up by the veins of the sto-

mach, and to be conveyed to the liver, and that on reaching it the action of this organ is preternaturally excited for its expulsion.

Derangements in the Hepatic System occurring at Birth.—It is well known that at birth, and on the commencement of the function of digestion, there often occur hepatic derangements, manifested by a bilious hue of the skin and disordered evacuations. When extreme, this is denominated infantile jaundice. I have before compared the change occurring in the hepatic system at birth to that which takes place in the lungs. Before birth blood scarcely circulates in the portal system, because the organs through which it receives it are not then in action, and because also its place is occupied by the blood received from the placenta. At birth, and as soon as digestion commences, the liver, like the lungs, is called upon for a new office. Before, the aliment was conveyed by the placental blood to the liver; now, the same organ receives a portion of it in the blood of the vena portæ. That a disturbance should then occur in the hepatic system, as there frequently does in the lungs, is precisely what we should expect; and if the liver be not perfectly organized, the new excitement, which then takes place, will at once betray the defect of the organ. At birth there often supervenes fatal hepatic disease in children born apparently vigorous.

Adversaria.

ART. I.—*A case of Dislocated Humerus reduced ten and a half months after the Displacement. By Nathan Smith, M.D. Professor of Surgery in Yale College.*

This was the case of a lady in Derby, Connecticut. The humeri had both been dislocated into the axillæ by a puerperal convulsion. One was reduced by Dr Smith at the end of seven and a half months after the accident, and has already been noticed in this Journal. It was thought not prudent to attempt the reduction of the other shoulder at that time, and another occasion did not present till the above time had elapsed. The reduction was then accomplished without the use of violent force or any mechanical apparatus. Gentle and long continued extension was made upon the member; the knee of the surgeon was then placed beneath the axilla, and the bone being employed as a lever, the head was without much difficulty conveyed upward into the glenoid cavity.

The result of these cases should encourage us to attempt more frequently than is done the reduction of old dislocations. We believe that the frequency of failure in such attempts is often owing to the injudicious employment of the mechanical powers, it being presumed that the reduction of such requires the exercise of great force. Now we are persuaded by facts stated in a previous number that even in recent cases the use of pullies will less frequently succeed than the judicious employment of manual force, and for the same reasons will more frequently fail in cases of long standing; though we can, indeed, conceive of such a case in which it might be desirable to effect, for a short time, a more powerful extension than can be made with hand. It should, however, be employed with great caution, because the slightest violence done to the muscles will create more difficulties than it is capable of overcoming.

ART. II.—*Case of Death from swallowing Leaden Bullets. By the Editor.*

Three years since, the Editor of this Journal, while resident at Burlington, Vermont, was called to a neighbouring town (Jericho) to advise in the case of a young man, ætatis 14, who had some weeks before imprudently swallowed two leaden bullets. He had become alarmed soon after swallowing them, was careful to ascertain whether they were evacuated, and became satisfied, after several days, that they had not passed from him. It was something more than two weeks before he began to experience any alarming degree of inconvenience from their retention. At this time there occurred a painful tumour on the right of the epigastric region, accompanied with constitutional irritation, fever, and loss of appetite. The abdomen generally became tumid and tender.

Dr Jamin Hamilton, a very intelligent young physician, was at this time consulted, and on careful investigation was persuaded that the mischief arose from the bullets being lodged in some part of the intestinal canal. Of course little could be done with any prospect of advantage. Efforts were made, however, by means of purgatives to dislodge the offending substances, but without success.

Soon after this, and some three or four weeks from the time the bullets were swallowed, I was consulted. The tumour on the right side of the abdomen had appeared to progress downward, it being now below the middle of that cavity, and was much diminished in size and tenderness. There had occurred another, however, on the left side in the left and upper part of the umbilical region, which had also progressed from above downward, and was now near the middle of the abdomen. The whole belly was tumid and tender, and I ascertained the existence of (probably) serous effusion in the cavity of the peritoneum, by a fluctuation produced by percussion. The patient could not endure the erect position, and in bed chose always to be on his back. He was much emaciated; there was much constitutional disturbance, and the symptoms were of a hectic character; alvine evacuations frequent and thin, but not remarkably disordered.

The case is the more interesting and useful in a practical point of view, because, at this time, there was some difference of opinion

in regard to the cause of the general affection, some of the physicians who had seen him affirming that the case was one of bilious fever, and no way connected with the foreign substances.

No expedient seemed to promise any relief. The feasibility of cutting down upon the tumour, for the purpose of extracting the foreign substance was suggested, but was not adopted, both because of the serious nature of the operation and of the impossibility of determining the precise situation of the bullets. Besides I did not altogether despair that nature would herself evacuate the offending substances by conveying them through the walls of the intestine, forming an abscess, and thus discharging them. I expressed at the time my belief that such a process was already commenced.

I did not again see the patient, but the conclusion of the case was afterwards related to me by Dr Hamilton. He continued gradually to decline. The tumour on the right side of the abdomen seemed to sink into the pelvis, and that on the left approached the groin, into which it finally extended itself, and there formed an abscess, which burst spontaneously, discharging a considerable quantity of matter. Very soon after this the patient died, and Dr Hamilton immediately obtained permission to examine the body.

On opening the abdomen the peritoneum was found adherent in many places and had evidently been much inflamed. On the right side, opposite to the original tumour, the colon was perforated below, and a fistulous canal, containing pus and fæces, extended along the posterior walls of the abdomen, entered the pelvis and passed along side of the rectum deep into this cavity. Here was found one of the bullets which was evidently making its way to the extremity of the rectum, and had the patient's strength been adequate, it would undoubtedly have been discharged beside the anus, as lumbar abscesses occasionally are. The other bullet was not sought for, but might undoubtedly have been found in the region of the left inguinal abscess, pursuing the course of the *psoæ* muscles.

It is obvious that in this case there could have been but little difficulty in determining the nature of the affection, because the patient was conscious of the cause and stated it to his physician; but may there not occur cases of this kind in which the substance swallowed may not have been noticed, as happens especially in the case of younger children, who often swallow the stones of fruit, pebbles and the like? There may then occur very considerable difficulty in the diagnosis, and undoubtedly such affections are often confounded with other diseases of the intestinal canal and of the general system.

The above will be useful as furnishing important diagnostic data, and as shewing the danger of swallowing hard and indigestible substances.

The proposition of cutting down upon tumours formed around substances which may be supposed to have escaped from the intestinal canal is one which is worthy of careful consideration. In the above case the weight of the substance and the position which the patient assumed prevented the bullet from being conveyed, by ulceration, through the anterior walls of the abdomen, in consequence of which it continued to traverse the cavity of the abdomen till it fell into the pelvis. Now, had an incision been made upon the tumour first formed, there would probably have been found an abscess containing the foreign substance which might have been removed. It is probable, however, that such an operation would inflict fatal injury upon vital organs: but as affording the only hope of recovery, ought it not in a similar case to be attempted? Foreign bodies have been removed by incision from the stomach, and yet the patient has survived. In the case above related, however, there being two bodies, and those remote from each other, the operation appears to me to have been inadmissible.

Were another such case to occur to me, I would endeavour to modify the direction which the substance should take by the position of the body. Had it been practicable for the patient to lie on the side, the probability is that the bullets would neither of them have entered the pelvis.

The above case is recorded from memory, but is correct in all essential particulars.

Analytical Reviews.

ART. I.—*Commentaries on some of the more important of the Diseases of Females. In three parts. By Marshall Hall, M.D. F.R.S.E. &c. &c. London, 1827.*

PART II. *On some Diseases incident to the Puerperal State.*—
Chap. 1. *On Puerperal Diseases in general.*

In this chapter our author considers the general causes of puerperal maladies and the circumstances which distinguish them; and, first, he observes that there are certain causes which, in the latter months of pregnancy, morbidly influence the brain and predispose to cerebral complications in those diseases which immediately result from parturition. These causes are uterine and intestinal irritation; pressure of the gravid uterus on the great vessels, causing congestion; the parturient efforts forcing blood into the head. Intestinal irritation, however, is adequate to the production of convulsions even when the vascular system is exhausted by hemorrhage.

The loss of blood, the emptied condition of the uterus, protracted suffering and mental alarm of parturition produce peculiar exhaustion and that disturbance of the vital powers termed the “shock” of parturition.

The peculiar circumstances which produce or modify the diseases that follow parturition are—intestinal irritation producing peritoneal inflammation and disease of the brain or, by sympathetic influence, counterfeiting them; loss of blood; morbid predisposition of the uterus, from the great change in its circulation, nutrition, &c. the excitable state of the brain from the long continued operation of causes already mentioned; the irritation and disturbance attending the secretion of milk; undue lactation. The previous health of the patient is also to be taken into consideration, as modifying the diseases of this period. Many of these causes generally co-operate, but usually the disease is referable more especially to one of them.

Chap. 2. *Of the Morbid Affections which occur in the Parturient State.*

The first of these, to which the author adverts, are those charac-

terized by cerebral symptoms. Of these apoplexy and puerperal epilepsy are the most important. The author recurs with more particularity to the causes of cerebral commotion. He dwells with emphasis on intestinal irritation as a prolific source of them, and especially a loaded and irritable state of the large intestines, which sometimes are found, at this period, to contain an incredible quantity of scybalous fæces.

Sometimes a state of sanguineous exhaustion gives rise to these diseases; but there then concurs a state of intestinal irritation. Under the same head is noticed syncope, produced by loss of blood, pain and alarm, and sometimes resulting in death. At other times, by the use of cordials, the recumbent position and the prompt application of the abdominal bandage, re-action is brought about which may even transcend the boundary of health. This shock of the system sometimes also developes latent irritations, and especially those of the alimentary canal, which very frequently supervene.

In regard to the history and treatment of puerperal apoplexy and epilepsy our author is not full, his attention being particularly directed to certain traits and complications of diseases treated of, which have not been fully understood. In regard to the employment of bloodletting, the sovereign remedy in these affections, he observes that a state of general sanguineous exhaustion sometimes exists together with the vascular fulness of the brain which produces convulsions. In this state general bleeding is forbidden, but the application of cups to the occiput will be found highly salutary, even although but a small quantity of blood be abstracted. At the same time every source of irritation, especially intestinal, is to be carefully removed.

Chap. 3. Of the Morbid Affections which occur in the Puerperal State.

Many of these affections are merely aggravated forms of diseases obscurely existing before delivery. Sometimes the most fatal of these affections come on insidiously. The author proceeds to treat, 1, of abdominal inflammation; 2, of intestinal irritation; 3, of the effects of loss of blood; 4, of mixed cases. The diagnosis and comparative treatment of these diseases constitute a distinct chapter.

Dr H. states, that of the above diseases those from intestinal irritation and loss of blood constitute much more important classes than has hitherto been suspected, and that their being mistaken for inflammation, and consequently treated with the lancet, has often been a fatal error.

Chap. 4. Of Puerperal Inflammation within the Abdomen.

A point to be deeply impressed on the mind of the practitioner is, that this formidable disease is sometimes abrupt in its attack, sometimes insidious and obscure. The pathognomonic symptom to be

relied upon is the presence of pain *aggravated by pressure*; all other symptoms are adventitious and inconstant. Generally there is rigor: but the author remonstrates against the belief that this symptom is necessarily associated with inflammation; he asserts that the latter often begins without it, and that rigor frequently occurs only as a symptom of intestinal irritations.

The same is true with regard to febrile heat; nor is an accelerated pulse an invariable diagnostic, though generally present. Pain of the head and cerebral disturbance, though sometimes a complication, are also often independent of this disease, and indeed, when severe and by paroxysms, indicate a very different form of disease. The tenderness and pain of the abdomen is generally associated with tumidity either general or confined to the region of the uterus. There is occasionally sickness and vomiting, also suppression of the lochia and a flaccid state of the mammæ. These however are not uniform; nor is the load of the tongue characteristic, though often present. The countenance, manner and respiration are, however, very peculiar.

The author confirms the statement of Laennec that puerperal inflammation is marked by an expression of extreme pain and anxiety in the countenance; the brow is contracted; and the upper lip is drawn upwards in a peculiar and characteristic manner, and bound round the teeth or rather gums.

The general motions of the patient are painful and reluctant; respiration anxious and performed chiefly by the ribs. A hurried breathing attended with noise and a kind of blowing indicates the approach of the sinking state. Pulse, at first only moderately frequent, becomes accelerated, but is often small and apparently feeble. Bowels sometimes constipated; sometimes there is diarrhea.

In determining the prognosis of this disease we are to notice particularly the aspect of the countenance, the general manner of the patient and the state of the abdomen. The peculiar breathing which we have mentioned often ushers in an irretrievable state of sinking in which the vital powers seem to be overwhelmed. Delirium and restlessness are unfavourable, as also dry foul tongue, flatulent bowels, flaccid mammæ, suppressed lochia, clammy skin.

Occasionally the inflammation results in abscess. The morbid appearances presented after death are, when the uterus is inflamed, serous effusion, exudation of lymph and pus from its surface; its substance is often enlarged and softened, its internal surface red. Appearances of the peritoneum are well known: intestinal canal often distended by fetid gases. Every part of the peritoneum and every viscus in the abdomen are liable to be diseased.

In regard to the treatment of this disease our author accords perfectly with Hey and others in placing chief reliance on the lancet; he directs that we should be particular, in abstracting blood, to place the patient in the sitting posture,—for it may be thus taken

with safety till the patient faints. Fainting from bleeding in the horizontal position is alarming, but if it occur to the patient, when erect, we have a remedy in laying her low. When bleeding is repeated the same thing should be done.

In those cases in which the system seems subdued by bleeding, and still there is tenderness of the abdomen, leeches or cupping are to be resorted to. In regard to the bowels a constant catharsis should be kept up till the disease is overcome. The author also recommends occasional injections of warm water as important; also blisters *pro re nata*. He also alludes to the plan of treatment by emetics, so successfully employed in these cases by M. Doucet of Paris; also to the employment of the ol. terebinthinæ recommended by Dr Brenan of Dublin; and the method of cure by ptyalism. Without altogether denying the efficacy of the two former, he suspects that many of the successful cases in which they were employed were those merely of intestinal irritation. Ptyalism he thinks to be worthy of further trial, especially as being safe and consistent with other vigorous remedies.

The strictest regimen is a necessary adjuvant. Opium is objectionable, unless irritation be conjoined. In pure inflammation it masks without subduing the disease.

Chap. 5. Of the Effects of Stomachic and Intestinal Irritation.

This is a topic on which our author writes diffusely, and with not a little reiteration. He furnishes, however, many valuable practical remarks. He thinks that these *effects* constitute a peculiar puerperal disease.

The symptoms of intestinal irritation, though sometimes *before*, generally occur forty or fifty hours *after* delivery. Generally it is ushered in by rigor, which is more characteristic of this disease than of inflammation, though uniform in neither. The pulse also is at first more frequent and full than in inflammation.

Dr H. urges the importance of the fact that intestinal irritation at times induces symptoms which counterfeit the most acute phrenitis, and again those which present the aspect of violent peritonitis. Diagnosis is obviously of the utmost importance; for bleeding, essential in the two latter, is often fatal in the former. The affections of the head and of the abdomen often concur or alternate in the same case; this conjunction is characteristic of intestinal inflammation. The symptomatic affection of the head is often accompanied with great pain and intolerance of noise, light and disturbance of any kind, and with wakefulness and delirium.

In the symptomatic abdominal affection there is frequently tenderness and distension of the abdomen; the disease may be identified by administering large injections of warm water and free purges, and carefully inspecting the stools, which will be found copious, dark, offensive and scybalous: relief will result from the evacuation. Careful attention should also be paid to previous diet.

In regard to prognosis Dr H. assures us that, if properly understood, intestinal irritation should always be one of progressive recovery; and that when mistaken for inflammation, &c. it is often fatal.

Syncope from bleeding is characteristic, especially if venesection be repeated. No dependence can be placed on the appearance of the blood. In cases of this affection, which have terminated fatally from improper treatment on the supposition of inflammation, no visceral disease whatever has been found.

The author here relates several cases which we deem it unnecessary to condense; they illustrate in a very satisfactory manner the beneficial effects of a mild purgative and anodyne plan of treatment, and the fatal consequences of error in diagnosis, and the employment of profuse and frequent bleeding.

In regard to *treatment* Dr H. by no means altogether forbids the use of the lancet; but would have it regarded as merely subsidiary to the purgative plan, and adapted to inflammatory complications of this disease; he presents the remedial means to be employed in this affection in the following order, according to their value: 1, full evacuation of the intestinal canal; 2, bloodletting; 3, anodynes; 4, leeches, cups, blisters, liniments; 5, mildest nutritious food; 6, absolute quiet, coolness, ventilation, &c.

When the case appears to have arisen from some offending substance in the stomach, an emetic is the remedy to be premised; when from intestinal irritation, by all means begin with a large enema of warm water, and follow with an active purge. If much excitement remains, bleed in the erect posture till the patient faints; this however is not to be repeated unless there be decided evidence of inflammation. The employment of these remedies is apt to be followed by some nervous commotion in the system, which is to be obviated by a kindly anodyne; the other means *pro re nata*.

Chap. 6. Of the Effects of Loss of Blood in the Puerperal State.

This is a subject on which our author dilates with much partiality. His sentiments in relation to it are already so well understood by the mass of the profession, that we shall be able, in few words, to present all that is necessary. He particularly directs his attention to the remoter effects of loss of blood as a puerperal disease; these effects are insidious; often conjoined with dormant intestinal irritation, but rarely with inflammation; the countenance and the lips are pallid (a striking trait); there is a convulsive beat and throbbing fulness of the pulse, throbbing pain in the head and palpitation of the heart; panting and syncope from slight exertion and from the abstraction of small quantities of blood. The disease is liable to be mistaken for inflammation of the brain or for disease of the heart, obviously a most fatal error. The symptomatic affection of the head is marked by much beating, throbbing, sense of pressure, vertigo and rushing noises.

When the heart is affected sympathetically, there is fluttering, palpitation, disturbed sleep, sometimes deliquium or sense of impending dissolution, beating of the carotids. The respiration is often affected with panting, hurry, sighing, &c.; stomach sometimes affected with retching. "There are frequent changes, sudden attacks of alarming symptoms, urgent messages, &c. which become sad characteristics of this affection." Abstraction of blood, muscular efforts, alarm and sudden assumption of the erect posture aggravate these symptoms and sometimes induce sudden and unexpected dissolution.

Our author proceeds to relate several cases illustrative of these affections. Several were mistaken for the inflammatory disease which they so accurately counterfeit, and particularly for inflammation of the meninges of the brain, on account of the extreme pain and throbbing in the head and the beating of the carotids. The practitioner was further deceived by the fallacious temporary relief afforded by bleeding. A repetition of this remedy, in more than one instance, suddenly destroyed the patient. In other cases, the error being discovered, mild tonics and nutrient diet were substituted; and the patients gradually recruited. We would impress upon the minds of our readers these important diagnostic traits as the principal of those which we have enumerated: pallor of the face and extremities; sudden accession of the painful symptoms and their extreme irregularity; violent throbbing and palpitations.

Treatment.—The disease being recognized, the physician should abstain from the use of every thing calculated directly or indirectly to produce exhaustion; at the same time use such tonics as do not excite too much the vascular system. [We have found Griffith's mixture salutary in a strongly marked case; also the infusion of quassia.] Chalybeate medicines in small doses are useful; bowels to be kept open with rhubarb and injections of warm water. Regimen and careful nursing are still more important. Diet should consist of arrow root, sago, beef tea, jellies, panado, &c. The patient should by all means be kept perfectly quiet and free from every kind of excitement. The physician must not be impatient to urge the recovery of his patient, for the system in this state is susceptible only of gradual improvement.

The author proceeds to relate several cases of fatal bloodletting which however we deem it unnecessary to present, and shall pass at once to

Chap. 10. Of the Effects of Previous Disorder of the General Health upon the State of the Patient after Delivery.

This subject is important in relation to both mother and child, the health of the latter being often influenced by a morbid secretion of milk. In regard to the mother such a previous state of the general health obviously predisposes not only to intestinal irritation and its

complications, but also to that exhaustion of the system chiefly induced by loss of blood.

It is obviously important that, should the physician attend the patient before delivery, the means of correcting the disorder of general health should be promptly resorted to. Very careful attention must be paid to the bowels, which are to be regulated by mild laxatives already indicated, and especially by enemata: nutritious diet is to be conjoined. Should the patient not have been known to the physician previous to delivery, careful inquiry is to be made into the history of the case. The external characters of disorder of the general health, given in the first part of this work, will then be found important.

It is often the case that in these affections the breast is withheld from the infant, because injurious to its health. This, for a time, is proper, but if the correct course of treatment be immediately instituted, the secretion will soon be so corrected that it will become advantageous for both mother and child that lactation should be continued.

PART III. Of the Disorders incident to the Later Periods of Female Life.—Chap. 1 & 2. Of Disorders incident to the Middle and Later periods of Female Life in general.

To appreciate correctly the diseases of this period it is necessary that the physician should be familiar with the characteristic disorders of the earlier periods; since they are often merely the protraction of the latter modified by age and the attendant constitutional changes. The disorders of age may often by careful inquiry be traced back to those of youth, and very frequently to some morbid affection experienced during the period of child bearing.

This disorder of the general health, continued from the earlier periods of life, exhibits most of those traits which we have already indicated, viz. disordered bowels, morbid complexion, sympathetic affections of the head, heart, &c. These however are modified by circumstances peculiar to this period, and especially by the augmented capacity and torpor of the large intestines and the greater liability to organic disease of the viscera. There is also a remarkable reciprocal influence between these disorders of the general health, and the derangements which occur at this period in the uterine discharges, and the disturbance of the system which results from the cessation of the catamenia. At this period also there is a proneness to apoplectic affections of the head—also to schirrosities of the uterus and the mammæ; over these the above derangements of general health have an important influence, and become therefore highly important in the estimation of the physician.

Our author here again alludes to the different shades of complexion associated with disorder of the general health as diagnostic

symptoms; but we have already observed that he has by no means made the distinction of practical value.

In regard to *treatment* the general principles are the same, for the most part, as those which were indicated in speaking of the corresponding disorder of earlier periods. Nothing is so important as attention to the functions of the intestinal canal; this will often be found loaded with an enormous quantity of scybalous fæces, the presence of which may not have been suspected till the exhibition of copious injections of warm water. This state of the bowels may have existed together with diarrhea, fluid and partial discharges being often produced by the hardened and impacted fæces.

Attention must also be directed to the frequent existence, at this period, of irritable hemorrhoids which complicate the general disorder, impart irritation to the uterine system and provoke unhealthy vaginal discharges. When they exist, drastic purges are exceedingly injurious; gentle laxatives, emollient and anodyne applications are suitable.

The catamenial discharges are generally disturbed, the discharge most frequently being scanty and dark coloured, and continuing but for a day or two; sometimes painful; occasionally excessive and also followed by leucorrhea. This disturbance may be owing to the natural and gradual cessation of the menstrual discharge, or may result solely from the influence of the general disorder; it is however unimportant to ascertain which, because the treatment is the same in either case.

In the exhibition of purgatives care is to be taken that the intestinal canal be not too much irritated, and that general exhaustion be not induced, which sometimes occasions paralysis or dropsy at this period. The stomach is to be supplied with mild nutritious food. Gentle exercise, fresh air, sea breezes and sea bathing are important. The utmost attention is to be directed to the mental tranquillity of the patient.

Chap. 3. Of the Morbid Effects of Undue Suckling.

This source of exhaustion is primarily productive of a train of morbid effects, among which the most prominent are defective sanguification and nutrition, emaciation, pallor and nervousness; the stomach becomes irritable, bowels alternately constipated and loose, flatulent, &c. The head, heart and lungs suffer sympathetically: the head especially is often very severely affected with pain and fulness.

Undue lactation has sometimes induced a state of amaurosis; at other times, by the exhaustion which results, the accession of phthisical symptoms is favoured and tubercles are formed in the lungs. It is liable also to draw in its train all those symptoms of general disorder which we have spoken of above. It is highly important therefore that it should at an early period attract the attention of the practitioner.

Treatment.—The infant must be immediately weaned; careful attention must be paid to the alvine evacuations; the determination of blood to the head and the sense of pain and fulness in that organ are to be relieved by the application of leeches, cups and blisters.

Mild tonic and cordial medicines are important; also a digestible, mild and nutritious diet; exercise in the open air; cutaneous frictions; occasional bathing; anodyne medicines when there is irritation; the utmost attention to perfect quietude.

Mischief often arises from attempts to restore the strength of the patient by the use of generous diet before the stomach is prepared for the vigorous exercise of its functions. The best laxatives are the compound tincture of rhubarb, the infusion of rhubarb and manna with rochelle salts, conjoined with frequent enemata.

[The remaining brief chapters contain but little which would particularly interest our readers, we having already given all those pathological and practical principles peculiar to our author.]

ART. II.—*Principles or Propositions of Medicine.* By F. J. V. Broussais, M.D. &c. &c.—Part III. *Therapeutics.*

[In our analysis of Broussais's Physiology, contained in the previous numbers, we have probably sufficiently acquainted our readers with that distinguished author's views of the healthy and diseased functions to render intelligible the following therapeutic principles which constitute the third part of a series of aphorisms on physiology, pathology and therapeutics. They are incapable of abbreviation, and we therefore extract them entire from Johnson's Medico-Chirurgical Review.]

Prop. 262. It is dangerous not to arrest inflammation in its early stage, since the efforts which nature makes to remove the malady are violent, and not seldom unsafe.

263. There are four kinds of means for arresting the progress of inflammations: viz. debilitants, revulsives, fixed tonics, stimulants, more or less diffusible.

264. The debilitants are, bloodletting, abstinence, diluent and acidulous drinks; but bloodletting is the most efficacious of all.

265. Venesection is the most proper mode of bloodletting, where sanguineous congestions form suddenly, under the influence of irritation, in the parenchymatous structure of organs:—In all other cases, *local bleeding*, as near as possible to the parts inflamed, (for instance, from the skin immediately over the principal seat of phlogosis) should be preferred, especially when the inflammation is recent.

266. There is no inconvenience in pushing bloodletting to the point of syncope, in a recent inflammation of a previously sound subject. Under opposite circumstances, we run a considerable risk by carrying sanguineous depletion to the above extent. The same may be said of abstinence. It is dangerous to make this too complete, or to prolong it too far, in unsound subjects, or where the inflammation has made progress. The bleeding from leech bites is sometimes excessive in children, and in young people whose skin is florid and the action of the heart energetic. The bleeding, in such, should be arrested as soon as any symptoms of faintness occur.

267. Local bleedings are often hurtful in old standing inflammations of the principal viscera, when there is no superabundance of blood in the system generally. It rarely happens that the local bleeding fails to increase the congestion in such cases. It is better to abstain from local bleeding under such circumstances, or else to draw the blood from a part at a distance from the principal point of irritation.

268. General or local bloodletting, in a person deficient of blood generally, always produces much restlessness or malaise—augments the visceral congestions—and often gives rise to convulsions, and even fever.

269. When a recent inflammation, that had readily given way to sanguineous depletion, in a sound constitution, suddenly revives again, we may again and again have recourse to the same measures:—the convalescence will still be prompt; but if a chronic inflammation had pre-existed, this practice will be often dangerous. It will be also dangerous, if the inflammation had been general, or in two or more organs at one time. In such cases, we must stop depletion, if the pulse loses force, even if it maintains its frequency.

270. Slight inflammations of the encephalon readily yield to leeching of the epigastrium, especially if any gastric inflammation had preceded the encephalitis. But strong congestions of the brain require general bleeding from the jugulars, temporal arteries, or the arm; together with leeches to the upper parts of the neck—cold to the head; and hot pediluvia.

271. Cerebral congestions, with feeble pulse, require cold applications to the head, and rubefacients to the lower extremities, before having recourse to bloodletting.

272. Leeches placed on the inferior portion of the neck, between the insertions of the sterno-mastoid muscles, remove bronchial catarrh, and thus often prevent phthisis. This mode of leeching is very efficacious in the catarrh which accompanies measles, and which sometimes proves fatal, if not checked. The puriform nature of the expectoration ought to be no bar to this application of the leeches.

273. Leeches applied about the clavicles, and under the arm pits, arrest the catarrhal inflammation which may have spread to the superior lobes of the lungs, and which generally terminates in phthisis,

unless early removed. A dull sound in these parts indicates that the inflammation has reached the pulmonary parenchyma, and imperiously demands local bleeding.

274. Leeches applied to the epigastrium more effectually remove gastric inflammation, than when applied to the anus. But this last site of their application is more beneficial in colitis.

275. When colitis does not cede to anal leeching, and when a point of pain and tumefaction can be distinguished in the track of the colon, blood should be taken from this point, by leeching or cupping, which will effect a cure.

276. To remove incipient colitis, by proper local bleeding, is to annihilate epidemic dysenteries.

277. Cynanche tonsillaris, cyn. pharyng. and cynanche trachealis are better removed by local bleeding than by emetics, which often exasperate the complaint, especially where there is plethora or gastric inflammation.

278. Symptoms of biliary and gastric irritation are sooner and more certainly removed by leeches to the epigastrium, or merely by abstinence, with water for drink, than by emetics.

279. Jaundice almost always depends on inflammation of the mucous membrane of the stomach and duodenum, or of the liver or its ducts, and is best removed by leeches applied between the epigastrium and hypochondrium, and by strict abstinence.

280. Articular inflammations cede readily to local bleeding when they are strictly local themselves; but if they are complicated with gastric irritation, it is often necessary to apply leeches to the epigastrium, to accelerate their cure.

281. Eruptive fevers, being the signs of inflammation of internal organs precursory of that of the surface, local bleeding from the nearest vicinity of the internal irritation renders the eruption more easy, and diminishes the danger.

282. The *secondary* fever of confluent small pox, being the effect of the erysipelatous inflammation produced by the pustules, may be moderated, and sometimes prevented—1, By the local bleeding practised for the *eruptive* fever; and 2, by leeches applied to the neck, immediately previous to the inflammation of the face.

283. The fever called *adynamic* (or typhoid) which supervenes on confluent small pox, being no other than gastro-enteritis, produced by the cutaneous inflammation, may be prevented, generally, by the means recommended for checking the excess of the cutaneous phlogosis.—*See Prop. 232 and 233.*

284-5. The intestinal worms which accompany entero-gastric inflammation, being only the effects or consequences of this phlogosis, require no specific means of cure beyond those necessary for the removal of their causes.

286. The *sequelæ* of measles are inflammations of the bronchia, of the lungs or of the primæ viæ; and therefore require no other

treatment than that of such phlogoses happening under other circumstances.

287. Emetics do not cure entero-gastric inflammations (always remembering that high degrees of *irritation* and inflammation are considered by M. Broussais as synonymous) except by revulsion, and by the critical evacuations which they provoke. Their effects, therefore, are uncertain in slight cases; and in severe cases they are dangerous, as they increase the phlogosis if they do not succeed in removing it. The same may be said of purgatives. The bitter purgatives increase the febrile heat, while the saline medicines of this class mask the phlegmasia, and render it chronic. Such are often the effects of calomel and neutral salts, which only give a temporary relief by the diarrhea which they induce—the latter frequently ending in marasmus or dropsy.

288. Blisters often augment entero-gastric inflammation, by an extension of the phlogosis from the surface to the mucous membrane of the stomach and bowels. They are not, therefore, so serviceable in adynamic (low) fevers, as they are supposed to be.

289. Blisters very frequently exasperate inflammations of the lungs, if applied previous to sanguineous depletion, whether the complaint be acute or chronic. Applied after depletion, they are very efficacious.

290. The stomach is an organ which requires stimulation, in order to keep up, by its sympathies, the necessary degree of excitement in other organs and their functions:—But this stimulation should be adapted to the degree of susceptibility in the stomach, for this is the seat of an *internal sense* which regulates the animal economy.

291. When the sensibility and irritability of the stomach are above the natural medium, all stimulants are injurious, as precipitating the play of the various functions, even to the point of annihilating them. Such is the case in intense gastritis, in chorea, and in yellow fever, &c.

292. Excessive irritability of the stomach does not always manifest itself by *pain*, nor by *vomiting*; but rather by the violence of the general fever, by delirium, by stupor, and by convulsive movements:—These sympathetic symptoms should warn the practitioner against the employment of stimulants.

293. When the stomach is tormented by stimuli, it sometimes disengages itself of the irritation, by throwing an increase of action (by means of its sympathies) on the exhalent and secretory vessels;—hence it is that gastro-enteritis, thus improperly treated, is not always mortal.

294. When the stomach is affected with a chronic inflammation, of a certain degree of intensity, and occupying the whole extent of its mucous membrane, stimulants are peculiarly detrimental, and the organ cannot disengage itself of the irritation they produce, except by exciting general fever, when a crisis is sometimes effected.

295. The stomach affected with chronic gastritis, to which is added increased irritation by stimulants, is in great danger, if it is unable to free itself by revulsion, in consequence of the intensity of the phlogosis. Hence the mischief often produced by mineral and other medicinal waters, &c. &c. The irritation, which is thus sometimes projected to the lungs, brain and extremities, is converted into phthisis, mania, apoplexy, or gout.

296. If chronic gastritis be circumscribed to a part of the stomach, its exasperation is generally evinced by *pain* during digestion, (especially if stimulants be taken) by malaise, and even by some feverishness: but if, by proper diet and tranquillizing remedies, these points of inflammation be soothed, the sound portions of stomach will crave for food, and even for stimuli, by which the organ will appear, for a time, to be comforted. Presently, however, the phlogosed points will be irritated anew, and the original train of symptoms will be recalled.

297. In partial gastritis, many years will pass in alternations of irritation and tranquillity, according to the various modes of treatment employed, till, at length, the coats of the stomach are changed in structure, either by scirrhus, mollescence, or ulceration—and then death is the inevitable result.

298. Partial irritations of the stomach, characterized by the march indicated in propositions 296, 7, will be cured by perseverance in the mildest and least irritating food—by avoiding all stimulant medicines—by mucilaginous diluents. This cure sometimes requires years for its completion; but it is the only permanent cure. It may succeed, even when some degree of disorganization has taken place. But it is necessary not to debilitate the stomach by too much bleeding, nor by such extreme abstinence as may risk the loss of all digestive power in the organ.

299. In chronic gastritis, and entero-gastritis, not complicated with colitis, a cure is sometimes effected by combating the constipation by means of calomel and the neutral salts:—But this is only in cases where the phlogosis is slight; for if it be severe, and especially if the organization of the stomach be compromised, the cure will only be palliative, as is the case where other stimulants are used.

300. Hemorrhoidal irritation is frequently the effect of chronic gastritis, or entero-gastritis, and ought to be treated in the same manner as these complaints. The exasperation of the gastritis may suppress the hemorrhoidal, as it suppresses the menstrual flux, and it is then a great error to use stimulants, with the view of reproducing these discharges. The safest way is to direct the treatment to the gastric affection; for, this being removed, the hemorrhoids will either be cured at the same time, or the discharge will return, if it be necessary to the constitution.

301. When the stomach is not sufficiently stimulated by aliments, all the functions of the body languish; but, in no long time, the hun-

ger developes, in this organ, an irritation which excites several functions in a manner unfavourable to the preservation of the individual. Such is the fury or mental exaltation of people who attempt to starve themselves. 302. Hunger, therefore, excites gastritis, and this phlogosis calls up its usual sympathies.

303. The sense of heat in epigastrio, the pains of the head and limbs, and the redness of the tongue produced by hunger, are dispelled by food, when they are only in a certain degree of intensity; —at a later period these phenomena are exasperated by food, and, therefore, only bland liquors should be first given, and the lightest nourishment should precede any stronger alimentation. Bleeding should not be employed for the phlogosis produced in this way.

304. When food passes not properly digested from the stomach into the intestines, it there excites colic and diarrhea, which cede to wine and alcoholic stimulants. If these are given immediately on the appearance of the colic, the digestion is re-established, and diarrhea will be prevented. These facts prove that assimilation (digestion) goes on in the intestinal canal.

305. Imperfect digestion of the aliments often takes place, during the treatment of partial chronic gastritis, by the soothing method; (*par la methode adoucissante*;) but the sympathies called up by this indigestion should not be considered as inflammatory. The treatment indicated in proposition 298 should be steadily pursued.

306. It is only when light food can be digested, that we can pronounce chronic gastritis to be cured.

307. He who does not know how to manage irritability of the stomach will not know how to treat any disease. A knowledge of irritation and inflammation of the stomach and intestines is the key to pathology.

308. When pulmonic inflammations have resisted the usual antiphlogistic measures and blisters, they may yet be controlled efficaciously by cauteries, by setons, and by moxas, applied, as nearly as possible, to the seat of the disease. But this will not always hold good, when the inflammation is seated in the mucous membrane of the digestive tube.

309. Incipient acute hepatitis should be treated by active local bleedings, which remove the gastro-enteritic inflammation with which the hepatitis is almost always accompanied.

310. Chronic hepatitis is sometimes palliated by emetics, by purgatives, by calomel, &c. but it is rarely cured by any other means than a steady perseverance in low regimen, assisted by counter irritation and issues in the neighbourhood of the organ.

311. Jaundice, unaccompanied by pyrexia, is most commonly the effect of gastro-duodenitis; and is more effectually cured by the remedies of this phlegmasia, than by purgatives and the pretended solvents. This rule is still more absolute when the icterus is accompanied by febrile action in the system.

312. Peritonitis in an early stage is readily removed by leeches, applied to the abdominal parietes; but when the inflammation has continued several days, it is often beyond the power of art. General bleeding rarely cures this disease.

313. Puerperal peritonitis, being generally an extension of inflammation from the uterus to the peritoneum, ought to be arrested in the beginning by numerous leeches to the hypogastrium. Emetics generally exasperate the complaint.

314. The warm bath does not cure peritonitis unless it causes a revulsion on the surface. If it fails to do this, it increases the malady. This rule, however, does not apply to emollient fomentations.

315. The warm bath often exasperates the acute gastro-enteritis; because stimulation of the surface is commonly propagated to the internal organs and tissues. Cold applications to the abdomen (the lungs being unaffected) are more beneficial than warm, in phlogosis of the mucous membrane of the stomach and bowels. These applications sometimes prevent repetitions of the bleedings.

316. When inflammation seizes, at the same time, on the mucous membranes of the lungs and of the primæ viæ, we may, after bleeding, apply cold to the abdomen, and warm cataplasms to the thorax. But if, under this treatment, the cough gets worse, we must discontinue the cold applications to the abdomen.

317. Typhus fever being gastro-enteritis, produced by the action of miasmata, often accompanied by other local phlegmasiæ, and especially of the brain or its membranes, may be arrested by the treatment proper for these inflammations, if taken at a very early period.

318. When the inflammation of typhus is not attacked in the earliest period, sanguineous depletion is often dangerous; because the poisonous miasma that originated the phlogosis enfeebles the vital powers and the living chemistry in such a manner that the loss of blood cannot be easily repaired.

319. The excessive exaltation of the vital phenomena (or in other words, the excessive excitement) is the most potent cause of their subsequent depression; and heat is the agent most capable of producing or increasing the primary excitement. Hence the fevers of hot countries, (where, besides, the miasmata are most poisonous,) are the most dangerous of all, and destroy the robust and vigorous more quickly than the weak. We are justified in concluding that cold applications in tropical fevers would be more efficacious than repeated bleeding; but this agent should be employed from the very commencement, immediately after bleeding—and internally as well as externally.

320. The slightest stimulant augments the intensity of fevers of hot countries, when exhibited at an early period. Emetics are then very dangerous—for example in yellow fever.

321. As acute inflammations are much more rapid when they supervene on chronic, the most efficacious means of diminishing the

ravages of yellow fever would be such as prevent chronic gastritis, (which is often the prodrome of acute inflammation in the same parts) and render the individual acclimated.

322. Acclimation to a hot country is obtained by general blood-letting—by abstinence—and by quietude:—but we should avoid the abuse of vegetable aliment and refrigerant drinks, which produce indigestion, this last induces gastric irritation, the basis of gastric inflammation.

323. Free living is dangerous, in hot climates, for the newly arrived, since it induces a prolonged action of the stomach, which keeps up an increased flow of blood to that organ. The same observation applies to the abuse of alcoholic drinks. Excesses, therefore, in eating and drinking retard acclimation, and facilitate the operation of febrific miasmata on the body.

324. The ingestion of lightly spiced waters, with a slight addition of alcohol and vegetable acid should be used for the reparation of the fluids dissipated by excessive perspiration, in hot climates; but if the quantity of solid food be diminished to the proper standard, the thirst and perspiration will be much less considerable. 325. Concentrated stimulants are very injurious in tropical climates.

326. When prostration of strength has succeeded to high excitement in yellow fever, our principal resources will be found in acidulated drinks and glysters, and in cold applied to the exterior of the body, if the animal temperature be above par.

327. This proposition relates to the nourishment which is to be given in the last stages of typhoid fevers.

328. The nausea and vomiting which take place at the beginning of acute gastro-enteritis are not to be treated by emetics, but by leeches to the the epigastrium, and hot applications to the lower extremities.

329. Constipation is favourable in acute entero-gastritis, (this term always meaning inflammation of the *mucous* membrane) as it indicates that the colon is not affected, and only requires one daily emollient lavement. If there be much heat of surface, this lavement should be cold.

330. Inflammation of the mucous membrane of the stomach, small and large intestines, is cured by leeches in considerable numbers to the anus and neighbourhood:—but if there be much prostration of strength, and the vascular system of the patient appears in a state of anemia, we must content ourselves with rice water or gruel, with gum and sugar, together with lavements of the same, containing some aqueous solution of opium.

331. When a prolonged discharge from leech bites, in the early stage of acute gastro-enteritis produces great debility, the practitioner should take care how he counteracts this by stimulants. The debility should be allowed to continue, as well as the discharge from the leech bites (unless the circulation become irregular), as the cure

will be more certain, and the convalescence more rapid after such a reduction. If syncope take place, of course we must exhibit cautiously some light cordials, leaving them off the moment circulation is restored.

332. If the bleeding from the leech bites should continue, notwithstanding syncope and symptoms of asphyxia, we should stop the blood, especially in young children, who are more subject to die of hemorrhage than grown people.

333. Local bleeding, abstinence, and diluents will always check incipient phlegmasia, if the inflammation be of no great extent in the organ affected. But if several organs be in a state of phlogosis at the same time, and to a considerable extent, as indicated by anxiety, restlessness, prostration, extreme frequency of pulse, we may then draw off all the blood of the body, and still leave the phlogosis in existence!—In such cases, we must not persist in sanguineous evacuations, merely because the pulse continues quick. We must economize the vital fluid and the animal strength, and restrict ourselves to the exhibition of aqueous diluents, adding gum or milk, if the tongue and teeth be not encrusted black.

334. An incipient meteorism (abdominal distention), in acute entero-gastritis, will be dispersed by a single application of leeches to the abdomen:—it is also cured by ice applied to the same part. If left unattended to, or if stimulants be given, it may change into peritonitis.

335. Subsultus tendinum and delirium, supervening on acute gastro-enterites, indicate an extension of the irritation to the encephalon, and if taken in the earliest period of their appearance, will often give way to leeches on the abdomen; but if these symptoms have continued some time, we must attack the encephalic irritation (now actually inflammation) by leeches to the temples or, what is still better, to the line of the jugular veins.

336. When the appetite returns vigorously in the course or at the close of acute gastro-enterites, some indulgence should be allowed in broths and light soups, notwithstanding the frequency of the pulse, the heat, and the redness of the tongue;—otherwise the hunger will increase the gastritis, and bring back the stupor, black tongue, prostration, &c. But the indulgence in more substantial aliments would be injurious.

337. When, during convalescence from acute gastro-enterites, pain in the head, bad taste in the mouth, nausea, malaise, and quickness of pulse take place, we may conclude that the convalescent has indulged too freely in eating. In such case, he should be kept almost entirely without victuals for a whole day, rather than exhibit emetics and purgatives. In the course of the following day, the convalescence will be re-established.

338. When, in the course of gastro-enteritis, there supervenes synanche parotidea, we should moderate this symptom by the appli-

cation of leeches, if the patient be not anemic, (bloodless from depletion) otherwise this external inflammation may renew the internal, or risk a congestion about the head.

339. When, in the course of gastro-enteritis, there supervenes a difficulty of making water, it is owing to an extension of the irritation to the bladder, and a prompt application of leeches to the hypogastrium will completely relieve this symptom, and prevent a host of accidents.

340. Epistaxis taking place in the course of acute gastro-enteritis is favourable, if the frequency of the pulse diminishes. If the hemorrhage become excessive, we should restrain it by a blister to the nucha, or between the shoulders.

341. If hæmoptysis take place during acute gastro-enteritis, in spite of depletion, it requires a blister to the upper part of the sternum. Intestinal hemorrhages require blisters to the abdomen, gummy drinks, or rice ptisans, acidulated with sulphuric acid.

342. Phthisis will be best prevented by early checking all inflammatory action in the respiratory apparatus.

343. We will cure hypochondriasis, and prevent scirrhus affections of the stomach, as well as pulmonary phthisis, by those means which remove chronic gastro-enteritis. Exercise of the body and amusement of the mind stand in the first rank of therapeutic agents in the cure of hypochondriasis.

344. Engorgements of the liver will be prevented or cured by the same means which cure chronic inflammation of the gastro-intestinal mucous membrane.

345. Chronic gastro-enteritis is to be cured by the lightest species of food, and by small quantities, at short intervals, of mild aqueous demulcent fluids.

346. We must not treat by *repeated* bleedings, and by *extreme* abstinence, chronic gastro-enteritis, except in otherwise robust subjects; because such treatment would cause an extent of debility that would require years for its removal, during which period, the irritability would be great, and the patient liable to frequent relapses. But mild aliment and demulcents taken during digestion (in the intervals of meals) will almost always cure the disease, if the viscera be not organically affected. The patient should be warned that the cure will be tedious, but that this plan of cure is the only effectual one.

347. Riding is dangerous in chronic gastritis, (what Dr Philip terms the second stage of indigestion) where there is considerable exaltation of the sensibility of the stomach.

348. The air of large cities is injurious to persons affected with chronic gastritis; while that of the country is highly advantageous, especially if combined with exercise. The country air and exercise accelerate the digestion of the food, the prolongation of such process having always a tendency to keep up irritability in the stomach and intestines.

349. Vomits, purgatives, and tonics only procure temporary relief in chronic gastritis and gastro-enteritis, and render the radical cure more difficult.

350. The various mineral waters, whatever may be their temperature or their composition, seldom *radically* cure the chronic gastro-enterites; (indigestion and hepatitis) but often exasperate them. These temporary patchings up generally leave the patient quite incurable in the sequel.

351. Engorgements of the liver, spleen, and mesentery being almost always the effects of chronic gastro-enteritis, cannot be properly cured but by the means which cure this last disease.

352. The medicines and mineral waters which cause an evacuation of bile, of mucus, and of urine, or which excite perspiration, hemorrhage, or cutaneous inflammation, diminish, temporarily, by a kind of revulsion, the engorgements of the liver and spleen, the irritation of the primæ viæ not being considerable; but it rarely happens that the above means operate a lasting cure. This can only be effected by a long perseverance in that abstemious system of diet and regimen which suits the chronic inflammation or irritation of the digestive organs.

353. Chronic catarrh, with difficult expectoration of mucus from the bronchial membrane is *palliated* by the expectorants of authors; but it can only be *cured* by antiphlogistics, mild air, and by revulsion (including counter irritation).

354. If we hope to prevent those scirrhus affections of the cervix uteri which come on about the critical period (as it is called) in women who have been affected with painful menstruation, we should allay the irritability of the uterus long before the said critical period arrives.

355. The abuse of venereal pleasures being a frequent cause of cancer of the uterus, we should endeavour to reduce those chronic phlegmasiæ of the cervix uteri which lead to this deplorable malady.

356. It does not always require a long period for the formation of urinary calculi, renal or vesical:—but their formation might often be prevented by timely application of leeches to the region of the kidneys, and by the use of emollient drink, as soon as the nephritic symptoms make their first appearance.

357. Powerful diuretics, including the alkalies, turpentine, &c. often indeed expel those small calculi which have already formed in the urinary organs; but they too often exasperate the latent phlegmasia which produced them.

358. Recent catarrhus vesicæ yields readily to local bloodletting, to diluent drinks, to abstinence, and to the re-establishment of any cutaneous irritation which may have previously disappeared; but if (catarrhus vesicæ) have become chronic, it is often incurable; and diuretics are then only palliative. Those means which produce most

benefit, under such circumstances, are almost invariably of an antiphlogistic character.

359. Insanity cannot exist without some degree of irritation in the brain, accompanied by, and not rarely dependent on, chronic inflammation or irritation in the *primæ viæ*. The treatment therefore should be, local bloodletting, antiphlogistics, and revulsion. In abandoning these cases to nature, we expose the insane to epilepsy, paralysis, and apoplexy, which are the results of inflammatory disorganizations in the brain or its membranes. We expose our patients also to organic affections of the abdominal viscera, the inevitable finale of long continued and neglected inflammation there.

360. Pulmonary phthisis, peritonitis, rheumatism, and gout, are only accidental diseases in mania:—not so phlegmasia of the mucous membranes of the abdomen and engorgements of the abdominal viscera.

361. The principal distinctions of mania are not to be drawn from the kind of mental hallucination (*nature de delire*) but from the degree of organic irritation of the encephalon and digestive organs. The more inflammatory the graver the malady. The physical treatment must be based on the degree of physical lesion—the moral treatment on the nature of the hallucination.

362. Laryngeal and tracheal phthisis are always the effect of local inflammation not arrested in its early stages; and they do not prove mortal except by the supervention of pneumonia or gastro-enteritis. This misfortune, therefore, may be prevented by checking early the laryngeal or tracheal inflammation. If this be too far advanced, life may be procrastinated by preventing, as long as possible, the occurrence of pneumonia or gastritis.

363. Hypertrophia of the heart (not congenital), being often the effect of a latent phlegmasia of this organ, may be prevented by local and general bleeding, by digitalis and revulsives.

364. Digitalis will not lower the pulse, unless the stomach be unaffected with phlogosis; and unless the principal viscera be also exempt from inflammation. Under opposite circumstances, this medicine accelerates the velocity of the pulse, and increases rather than checks the progress of inflammation.

365. Digitalis lessens the force of the locomotive muscles, and may therefore be advantageously employed in convulsions, provided no inflammation exists in any of the viscera. But in no case is it prudent to exhibit very large doses of this medicine, or for a long period of time.

366. Spontaneous hemorrhages should be treated as inflammations, viz. by bleeding general and local, by refrigerants, and especially by revulsion, whatever may be the degree of strength in the patient. Revulsion is the best resource where debility is considerable.

367. Spontaneous hemorrhage is often kept up by a local inflammation, near or at a distance from the place of hemorrhagy. 368.

These hemorrhages often coincide with hypertrophy of the heart. Digitalis may then be useful, provided the stomach be in a fit state to receive it.

369. Spontaneous hemorrhage very often succeeds to inflammation, or takes on the character of phlogosis in the same place. We should therefore treat hæmoptysis as inflammation, by means of antiphlogistics and revulsives, without being restrained by the fear that tubercles pre-existed.

370. The mineral waters irritate and excite the heart and circulating system—augment the hemorrhagic disposition, and even occasion hemorrhages in those who are not predisposed to them, often determining aneurism, paralysis, or apoplexy.

371. Spasms and convulsions of every kind being the effects of a local irritation, fixed or ambulatory, cede to the treatment proper for such irritation—that is to antiphlogistics, and sometimes to revulsion, where the irritated tissue is not disorganized.

372. Antispasmodics* will not cure convulsive affections, unless the stomach be capable of supporting them without being super-excited—and unless the local irritation, which is the cause, be under the degree of inflammation. On this account, the antispasmodics are often detrimental in hypochondriasis and hysteria.

373. Antispasmodics may suspend the phenomena of the nervous derangement, notwithstanding the inflammation of tissue, on which these phenomena depend; but the malady will be exasperated, and the cure will not be effected except through the medium of antiphlogistics and revulsion. Exercise of the voluntary muscles is the best mean of dissipating the disposition to convulsive movement and spasm in the system. It removes the visceral irritability and irritation by consuming them in another way and on another set of organs. It increases nutrition, and all the secretions.

374. Temperance is a condition, without which it is impossible to cure radically convulsive and spasmodic disorders.

375-6 relate to the treatment of scurvy.

377. There are five modes of treating intermittent and remittent inflammations now in use: 1, by antiphlogistics during the period of excitement—2, by stimulants and tonics during the apyrexia—3, by stimulants during the febrile heat—4, by stimulants administered at the very commencement of the cold stage—5, by antiphlogistics during the apyrexia.

378. Intermittent inflammations cede to bloodletting and cold employed during the height of the hot stage, when the patient is robust and plethoric, and the disease recent;—in such cases the

* By the term antispasmodics M. Broussais means only those which are of a stimulant nature; and not the *demulcents*, which he avers to be the best and safest antispasmodics.

leeches should be applied as nearly as possible to the principal seat of irritation.

379. Intermittent inflammation (fevers) yield, without danger, to bark and other tonics administered during the apyrexia, when there is no constitutional plethora, and when the principal viscera, especially those of digestion, present no trace of inflammation after the hot stage is over—that is, when the fever is clearly intermittent.

380. Intermittent inflammations are rarely cured by stimulants given during the stage of excitement. This plan is apt to change the intermittent into continued or remittent inflammation, or fever.

381. Intermittent inflammations (fevers) are rarely cured by stimulants given at the accession of the cold stage, because the excitement which they cause augments the intensity of the hot stage. This plan rarely succeeds except after the employment of antiphlogistics, and in robust subjects, where the apyrexia is complete.

382. Inflammations, with periodical exasperations, are cured by antiphlogistics, when some degree of inflammation (or irritation) continues in the viscera after the sweating stage; especially if this last be sufficient to keep up some pyrexia in the intervals—in short, when the fever is of a remittent character.

383. The surest plan of curing inflammations with periodical exasperations (remittent fevers) is to treat them at first by antiphlogistics, during the hot stage, and to continue this antiphlogistic treatment after the paroxysm, till the apyrexia is complete—then to give the bark or other tonics during the whole period of the intermission. Diffusible stimuli, at the very commencement of the cold stage, may sometimes be allowed; but they are to be changed for cooling diluent drinks when the hot stage sets in.

384. Bark and stimulants, administered while there remains any inflammatory irritation in the digestive tube, may raise it into an acute and continued form—or they may stop the accessions, and establish a chronic and latent form of phlegmasia in those organs. It is in this way that bark produces *obstructions*.

385. Intermittent inflammations (fevers), abandoned to nature, undergo a spontaneous cure, when they are mild in degree, and when the cause ceases to be re-applied:—in opposite circumstances, they either change into acute continued inflammations, or they degenerate into a chronic state of continuity, accompanied, finally, by visceral obstructions and dropsy.

386. Obstructions of the parenchymatous viscera (liver, spleen, lungs) sometimes supervene on intermittent inflammations, without any elevation of the gastro-enteritis, into a state of continued acuity. Such obstructions will be removed by the bark given during the apyretic intervals.

Abstract of Foreign Medicine.

PATHOLOGY AND THERAPEUTICS.

Chronic Enlargements.—M. Lisfranc tells us, before attempting to cure any chronic enlargement, it would be well to examine carefully the condition of the thoracic and abdominal viscera, &c. When any advanced organic alteration is recognized, the radical cure of the external affection ought not to be attempted. It has often been observed that the visceral disease becomes aggravated as the other diminishes. Cure the visceral affection first, and then the chronic enlargement. As often as pain (no matter how slight) shews itself, apply thirty or forty leeches, being regulated by the strength of the patient as to the quantity of blood that should be taken. Reduce the diet of the patient, and cover the part with emollient poultices. If the sub-inflammation resists the first local bleeding, it must be reiterated as the constitution of the patient will bear it.

To produce a complete cure of the disease, recourse must be had to excipients and resolvents. Among the first, M. L. ranks the applications of small numbers of leeches, (from two to six, and with the precaution not to encourage the flow of blood). Their action in this case is exciting: in hundreds of cases at La Pitié, M. L. has proved this fact. After such an application of leeches, we see the next day the volume of the tumor is increased, and its sensibility also; sometimes there is an erysipelas. But these symptoms of increase need not excite alarm. In forty-eight hours after, the erysipelas, if slight, is gone; the swelling and sensibility diminish; and the volume of the tumor is reduced,—if not, its consistence is softened. Four or five days after, a new application of leeches is indicated, and so on till the cure is completed. Should the degree of inflammation produced run to a great height, then it must be subdued by a numerous application of leeches. Scarifications, M. Lisfranc thinks, are sometimes useful. His mode of scarifying is to make twenty or thirty punctures with the point of a lancet or straight bistoury, and to leave between each nearly a third of an inch, so that the inflammatory circle which forms round the one shall not join the others. The tumor is to be covered with an emollient poultice.—*Lond. Med. & Phys. Journ.*

M. Broussais on Tetanus.—The Professor of the Val de Grace has recently published a memoir on tetanus, by M. Lassere, a physician of Dordogne, in which the author of the new physiological doctrine strongly advocates the practice of local depletion in tetanus, as the only measure that promises any thing like general success in this formidable malady.

Dr Lassere has met with five cases of tetanus within these few years—the first four of which were saved by general, and more especially local, depletion along the spine, the epigastrium and the muscles which were the seat of spasm. One of these cases was traumatic tetanus, too, which is still more dangerous than the idiopathic. Of this case we shall take a short notice.

Margaret Fouillard had her heel wounded by a blunt piece of iron, the injury, however, being so trifling as not to prevent her from attending to her domestic concerns. Two days afterwards, she felt pains shooting up the thigh of that

side,—and, ultimately the back, which became stiff. On the tenth day after the accident our author was called to the patient, the whole trunk of whose body, and also the lower extremities, were rigid as a board. Trismus was slight; but the spinal column was the seat of excruciating pain. Her bowels had not acted for some days—pulse small and tight—sense of suffocation. On examining the seat of the original injury, Dr L. found the parts tender on pressure, though without any swelling. He made a deep crucial incision, which occasioned a profuse hemorrhage. Thirty leeches were applied to the lumbar region, and then a large cataplasm. Opium was also given every two or three hours through the night. The next morning the tetanic symptoms were greatly relieved, and the trismus had disappeared. Warm baths, purgatives, and fomentations to the injured heel completed the cure.

The above was the slightest of all the five cases—the others requiring great and repeated local depletions by leeches from the spine and epigastrium. In some of these cases, it was observed that opium not only disturbed the head, but seemed to induce or accelerate inflammation of the entero-gastric mucous membrane.

M. Broussais, in his comments upon these cases, ridicules the idea of treating tetanus as a nervous or spasmodic affection, by opium, anti-spasmodics, mercury, cold and warm baths, &c. It must be treated as we would treat arachnitis or spinitis—"that is, by applying leeches along the vertebral column, and along those muscles to which an excess of nervous influence is directed." He strongly censures the administration of opium in this disease. He avers that this medicine excites disorder in the stomach and head, which disorder re-acts on the spinal irritation or inflammation, and, consequently, increases the disease. On the same account, he abstains from all violent purgatives, considering the obstinate constipation as a consequence of the disease, and to be remedied by the removal of its cause. M. Broussais asserts that, treated on these principles, the disease has ceased to be half so formidable as it formerly was in the Val de Grace, and in other places where the physiological doctrine is taught and pursued.

We believe that the local depletion of Broussais has never been carried to the full extent in this country; and when we reflect that the brain and spinal marrow must be the *immediate* seat of the irritation or inflammation which gives origin to the phenomena of tetanus, we can hardly look with confidence to any remedy which has not a strong tendency to remove this irritation or inflammation. What remedy is more likely to effect this indication than powerful and repeated local depletion from the head and spine, but especially from the latter?—*Med. Chirur. Rev.*

Chronic Diarrhea.—There are many forms of this disease evidently dependent on ulceration or other organic lesion of the mucous membrane of the bowels, the consequence, or at least the sequence of dysentery. But there are some other cases of obstinate diarrhea, where the disease goes on for years, and where dissection, after all, detects no organic change in the intestines. Dr Baillie has described "a particular species of purging," which is but little known, and has generally proved fatal. The alvine discharges resemble a mixture of lime and water, with froth on the surface. It most commonly occurs in people who have resided in warm climates, and suffered from hepatic affections: but not exclusively in this class. When the disease is in a mild form, the evacuations are of the consistence of pudding, and of a pale colour. Under such circumstances, and especially if the motions be occasionally figured, the patients may live many years with the complaint. They have usually a sallow countenance—are thin, but not greatly emaciated—have tolerable appetites—white coated tongues. Nothing particular can be detected when the abdomen is examined by the hand. There is no tumour—no pain on pressure—but the bowels are generally distended with air. Dr Baillie never had an opportunity of examining any patients who died of this disease, and therefore could not speak as to its pathology. But Mr Wardrop, in a note to his edition of Dr Baillie's works, informs us that he (Mr W.) had an opportunity of dissecting a

patient who had been under Dr B.'s care for this complaint, and that he found considerable thickening of the coats of the rectum and colon, great contraction of the calibre of the gut, with small but deep ulcers interspersed over its surface. Dr Seymour and Mr Arnott, however, have each had an opportunity of examining the intestinal canal in this complaint; but in these instances there was no breach of structure or organic alteration of any kind in the large or small intestines.

We have been induced to notice this subject in consequence of a remedy which has been introduced of late by Dr Elliotson, at St Thomas's Hospital—namely, the sulphate of copper, combined with opium. This zealous physician has given the remedy in a considerable number of cases of chronic diarrhea, where all, or almost all, other remedies had failed, and with complete success, in every instance. The dose is generally half a grain twice a day, with half or a grain of opium, increasing the dose to two or three grains in the day, but seldom beyond that quantity. We understand that Dr E. made experiments with the opium alone, which failed to cure the patients—and the reason why he combined it with the sulphate of copper, was to prevent the latter from causing pain in the stomach and bowels.

Dr E. is inclined to view the remedy, in respect to its *modus operandi*, as simply an astringent; but when we reflect on the power which this sulphate possesses of allaying irritability when applied to external sores, we shall be induced to attribute much of its success in these cases to its action as lessening morbid irritability of the intestinal canal. But as Dr Elliotson's observations will probably soon be published, we shall defer any farther remarks till that period.—*Med. Chirur. Rev.*

SURGERY.

On the Operation for Cataract.—Three modes of giving the rays of light a free passage to the retina, when obstructed by opacity of the crystalline lens or its capsule, have been adopted—1st, By extraction through an opening in the transparent cornea—2d, By depression, or slicing, with a needle introduced through the sclerotic—and 3dly, by *keratonyxis*, which is depression or cutting up of the cataract by a needle pushed through the transparent cornea. It is on this last operation that the present hospital report from the Hôtel Dieu is founded.

Keratonyxis. It is 23 years since Dupuytren performed this operation, by accident, on a young girl, whose eye he could not fix for the common operation of couching, and therefore he transixed the transparent cornea with the needle—pushed it through the pupil—broke the capsule of the lens—and cured his patient. He was not then aware that this operation had been performed in other countries; but when he found that *keratonyxis* was so much esteemed in Germany, he put it to the sure test of experience in the Hôtel Dieu, and charged M. R. Collard with the task of recording the results.

After a great number of trials, M. Dupuytren came to the following conclusions, viz. that the operation in question (*keratonyxis*) is not more easy of execution than that in which the sclerotica is punctured—that it is a trifling advantage to be able to perform this operation on both eyes with the same hand—that, in this process, the position of the operator's hand, between his own eye and that of the patient, is a disadvantage—that the narrow circle of the pupil limits the movements of the needle, and prevents the operator from readily displacing the cataract, and separating the adhesions of the lens with the ciliary processes—that this mode of operating does not prevent either the nervous or inflammatory accidents which sometimes follow couching—that it exposes to iritis as much as, perhaps more than, puncture of the sclerotica—that it is sometimes followed by opacity of the cornea, at the spot where this membrane is punctured—and finally that *cæteris paribus*, this operation does not

differ, in any sensible degree, as to its results, from the other mode of operating through the sclerotica, *in the majority of cases*; but that, in particular cases, it has its advantages, and therefore should not be abandoned.

M. Dupuytren attaches great importance to preparatory measures in this operation, which consist of venesection, purgation, leeches, blisters, anti-spasmodics, &c. according to the constitution of the patient. Some drops of the solution of belladonna, or of laurel water, are introduced between the eye lids the evening before the operation, and the unaffected eye is covered with a bandage during the operation.

The patient being properly placed in bed, and the eye lids separated by his assistant and himself, he plunges the point of the needle through the cornea on a level with the lower edge of the dilated pupil, and having advanced the instrument through this aperture, he cuts up, or displaces, the crystalline en masse, as he judges expedient. The operation done, he covers both eyes with a bandage, and carefully excludes all light from the patient's room, prescribing the lowest diet, and absolute repose. The symptoms which succeed are narrowly watched and promptly met by the proper antiphlogistic means. The following are the results of 21 operations by the keratonyxis:—Eleven were speedily and durably successful—six required a month for the cure—two cases were followed by nervous accidents—five of the patients had slight ophthalmia—two had *iritis*—four were operated on twice or thrice—one lost the eye entirely by inflammation—and one lost sight by the formation of a cicatrix on the cornea, in front of the pupil.

In fine, the cases where this mode of operating is advantageous, according to M. Dupuytren, are very few; such as where the edges of the orbit are very prominent—where the eye lids cannot be opened sufficiently wide—where the eye is very small, and deeply sunk in the orbit—where there is excessive mobility of the eye ball, and especially where there are muscular movements, particularly in young people, which would be likely to embarrass the operator.—*Med. Chirur. Rev.*

M. Lisfranc's Signs by which the Presence of Pus may be in general detected.—He advises to apply on the part the three middle fingers of each hand, separated about an inch from each other; then with the left hand make pretty strong pressure; the right hand, remaining fixed, will feel the liquid which distends the portion of the cyst placed under it. In its turn the right will make pressure, whilst the left hand will remain fixed, and so on.

This method, which is very good when the abscess is large and superficial, might lead into errors when the matter is small in quantity and deep seated. In the same way, when the disease is situated in the soft tissues, offering little resistance,—such, for example, as those of the *mammæ*, of the abdominal parietes, of the thigh, &c.—the percussion communicated to these parts by pressure might stimulate fluctuation, and give birth to mistakes. In such cases, let the fluctuation be sought for after the following manner.

Apply the three middle fingers of the hand on the point where we suspect a purulent collection; make a smart and pretty firm pressure on it; then suddenly desist, but without removing the fingers. The pressure made may be arrested by a hard body, which is the anterior wall of the cyst applied against the posterior. The matter displaced by the pressure regains its place the moment pressure ceases, and the fluctuation is easily recognized. If the cyst is not very full, a kind of gurgling or undulation may be felt, which it is sufficient to have once perceived to prevent the risk of future mistake.

There is a third method by which fluctuation may be felt. It consists in placing one hand on one side of the tumour, and making gentle percussion with the other on the opposite side. After each percussion, a rush of matter is felt to strike the hand resting on the tumour.

These are not the only means that practitioners should make use of to recognize the presence of matter: there are some very important modifications to be put in practice, according to the seat of the abscess.

When the purulent collection is in the midst of very mobile textures which

do not offer any point of support, or if it be very deeply situated,—such as the mamma, the walls of the abdomen, the thigh, the calf of the leg, &c.—let the hands of an assistant be closely applied to the part, that it may be rendered perfectly steady; otherwise, the sort of vibration arising from the mobility of parts is apt to deceive.

2. When purulent collections take place in the orbit, cases occur in which it is difficult to recognize a fluctuation. The tissue of the eye lids, at that time always infiltrated with serosity, and the great mobility of the eye itself, lead into error: added to these two circumstances, the cellular texture in this cavity being very loose and permeable, the matter often breaks down a much greater space than is necessary to contain it. Let us attend to the following direction:—The patient closes both eye lids; we make pressure on them in front; by this means the eye is pushed back into the bottom of the orbit, the pus is concentrated towards the base of the cavity, projects under the inferior eye lid, and the fluctuation is easily felt.

3. When an abscess developes itself outwardly at the lower and external part of the auditory canal, if the collection is voluminous, no mistake can possibly be committed; but if the collection is not great, the pressure made to ascertain its presence causes it to impinge against the external auditory canal, which is raised up: it is then very easily mistaken. In this case introduce a female sound into the passage of the ear, depress gently with this instrument the lower part of the cavity. By this means the matter is pushed out externally, the textures are fixed, and the fluctuation is then easily felt.

4. Does the matter exist in the moveable parietes of the mouth? the practitioner, in order to steady the textures, should put one or two fingers into that cavity to push them outwards, while with the other hand he feels the fluctuation.

5. *Abscess situated under the scapula.*—A woman, brought to bed recently in La Pitié, had a purulent collection under the shoulder blade, which was recognized by the following signs:—The scapula was raised; when pressure was made upon it, and it was depressed, making the fluid shift its place, in the same manner as, in a dropsy of the knee joint, the patella is depressed when the limb is extended. The pressure made upon the shoulder blade forced a part of the matter to the margin of the bone, more particularly towards the inferior angle, and the external and spinal borders. Towards these points small bands overlap, and disappear when pressure ceases.

Instead of trepanning the shoulder blade, as Marechal did in a similar case, M. Lisfranc gave exit to the matter by an incision made immediately under the inferior angle of the bone; and, in cases where the matter is situated more deeply under it, the same incision might be made, and then a catheter introduced into the cyst, which would easily reach it.

6. When an abscess appears in the neighbourhood of the vulva or anus, we should, to avoid mistake, introduce one or two fingers into these cavities as far as possible; press from above downwards, and from within outwards, upon the painful point. By this means the tissues are made steady, and the matter projects outwards.

7. When matter is secreted in the perineum, under the perineal aponeurosis, it is then impossible for it to project outwards: it is in examining by the vagina or rectum that we shall be able to discover the matter through the adjacent mucous membrane.

8. Is the abscess situated about the femero-tibial articulation? It is difficult, in some cases, to distinguish it from dropsy of the joint. However, it is of the greatest consequence that they should be distinguished, because in the collection of pus an opening should quickly be made: in dropsy of the joint, it is well known how carefully an opening is to be avoided.

With regard to the opening of abscesses, it will suffice to say that M. L. uses the knife. When he has to open any extensive abscesses, he lays them open by little bits: he makes an incision one or two inches long, waits a day or two till any febrile symptoms pass away, and then makes another similar incision, and so on till the whole sac is laid open; and it has frequently happened that,

as the incisions were continued upwards, the lower cuts cicatrized. As an example of this, a young man, aged eighteen, of lymphatic temperament, came into La Pitié, April 3d, 1825: he had a fluctuating tumor, larger than two fists, in the lumbar region; it mounted up as far as the inferior angle of the scapula, and was at least three inches broad; he had never felt pain any where but in the situation of the tumor. On the 7th the tumor was punctured, and a flocculent ill-digested pus given vent to: the pus was evacuated gradually.

20th.—The sac was completely emptied; it preserved nearly the same dimensions. It was in vain that all means of compression were used with it till May 2d; at that time a probe passed up nearly five inches. Neither emollient nor irritating injections produced any amendment.

May 10th.—M. L. laid open to the extent of two inches of the sac. Charpie was introduced between the lips of the wound. Inflammation, with some fever, came on, which soon subsided by rest and diet.

18th.—An inch and a half more was laid open.

24th.—Another incision laid open the upper point of the sac; but, as the sac extended into the flank, after some time incisions similar to those described were practised, and with the most complete success.—*Lond. Med. & Phys. Journ.*

Analysis of Domestic Medicine.

Scale of Chemical Equivalents.—We have seen with much pleasure, and examined with some care, the scale of chemical equivalents published in Albany, New York, by Dr Beck and Professor Henry. The arrangement of the numbers differs from that on the original instrument of Dr Wollaston; instead of oxygens, hydrogen is here considered as *unity*. This we regard as by far the most natural, simple, and preferable plan, and have no doubt that it will soon be universally adopted. There are some trifling inaccuracies in a few of the *statements*, which we hope to see rectified in a second impression. It would have been advisable, for the sake of uniformity, to have preserved the same name, for the same substance, throughout; thus we have sometimes *barytes* and at others *baryta*, and sometimes *potash* and at others *potassa*. Attached to the back of the scale, there are some directions for its theoretical application and practical use. As a scale arranged on this plan is much wanted in our laboratories and lecture rooms, where the *hydrogen unit* is we believe invariably used, we have no doubt that the enterprising publishers will soon be remunerated for their trouble and expense.

Dr Coates on Delirium Tremens.—This is the conclusion of an article of which we have already analyzed a part contained in a previous number. In this the Doctor proceeds to determine the comparative value of the several modes of treatment which have been tested. His own experience, and his inferences drawn from facts stated by others, are decidedly hostile to the depletory plan of practice, and as decidedly favorable to the narcotic method. Sleep is at all events to be procured, and to accomplish this he has given in one case 45 grs. of opium in less than eight hours; in another 400 drops of laudanum in five hours, with salutary effects. The following extract, however, will furnish our readers with an important practical page.

“Having thus completed a survey of delirium tremens, we may conclude by a recapitulation, after the example of many excellent writers, of the leading points which we have endeavoured to establish, in the form of aphorisms.

1. The disease is a delirium, and not a mania; and this distinction should be attended to both for medical and legal reasons.

2. It consists in a heightened activity of the sensorium; and this appears to arise from the generation, in that organ, of an unusual vital power, which is not, as in common, exhausted by the narcotic poisons habitually used. This is not considered as an hypothesis, but the expression of a fact existing in nature.

3. The delirium may be combined with other diseases and injuries, situated in many different parts of the body.

4. When violent, it obscures and renders imperceptible most of the symptoms of the co-existing disease.

5. It is doubtless necessarily accompanied, as all vital excitements are, with an unusual amount of the circulation of the blood in the organ affected; and is, from this cause, sensibly influenced by cups, blisters and emetics. It is not so far checked by the use of emetics as to render these advisable as a leading means

of cure. It is not sufficiently under the control of the general circulation to be cured by venesection, or to be sensibly relieved by it without such an exhaustion as is highly dangerous to life.

6. It is entirely and absolutely under the control of opium; although the fevers and other diseases which are liable to accompany it, may be by no means so.

7. It admits of very large doses of opium, which are not productive, either at the time or subsequently, of any injurious consequences, provided they are not repeated after a tendency to sleep is evinced.

8. The patient must *sleep or die*. There is no alternative. Yet the physician should personally watch the effect of very large doses of opium.

9. There is no distinction of stages which need occasion a moment's delay in resorting to opium.

10. Purgatives are of no use in this delirium; but it is necessary to prevent costiveness subsequently to the administration of opium. Purgatives may be necessary for diseases which exist at the same time; but when this is the case, they are, in general, most advantageously postponed till after sleep has been obtained.

11. Gentle stimulants are frequently useful during the convalescence; but these should not resemble ardent spirits; and an excellent and sufficient one is capsicum. Nor should any ardent spirits, unless indicated by peculiar circumstances, be given during the paroxysm."—*N. A. Med. & Surg. Journ.*

Dr Drake on the Modus Operandi and Effects of Medicines.—This is an eclectic essay in which the facts relating to many disputed points are presented with much judgment; and very fair inferences deduced. The intelligent writer asserts that there are three modes by which medicinal agents influence the vital functions: 1, correspondence of function (nearly synonymous with the term sympathy as generally received); 2, correspondence of function; 3, absorption. Correspondence of function is maintained by the nerves, and is the vital association by which organs, conspiring to a common result (the life of the individual), must be united. For harmony of action they must hold intercourse in health, and hence must sympathize in disease.

Dependence of function results from the necessity of the perfection of the office of one organ to that of another. "Thus if the liver is made to secrete more bile, the bowels are stimulated into increased action. Dr D. advocates the position that medicines operate in all the modes. That they do so by absorption, he adduces the facts, that many agents are eliminated in the secretions; that some are detected in the blood, although others are not from minuteness of quantity and from our not possessing sufficiently delicate re-agents by which to develop them; that many medicines when injected into the veins produce their specific effects. "Medicines, when absorbed, are either suspended or dissolved, in the serum of the blood; and with it carried through the system. They are thus made to act upon a surface incomparably more extensive than while they remained in contact with the mucous membrane of the stomach; and that this vascular surface is extremely sensible to their impress, we have just seen. All the conditions necessary then to a decided effect are present, and why should that effect not be produced? It is asked, if they act after being absorbed, what it is that determines a narcotic upon the brain, a diuretic upon the kidneys, and a chologogue upon the liver? I reply, that we do not know, any more than we know why it is that the impression which an agent makes on the stomach should be transmitted to the brain, kidneys or liver, instead of the lungs or uterus. And this reply I hope will satisfy every exclusive sympathist".—*Western Med. & Phys. Journ.*

Dr D. also advocates the doubted existence of both stimulants and sedatives. Error, he thinks, has arisen from confounding topical with general effects. Thus tartar emetic digitalis may irritate and excite parts, but generally depress action.

Intelligence.

Medical Appointments.

Samuel Jackson, M.D. of this city, has recently been appointed to the chair of Institutes of Medicine, adjunct to the chair of Practice, in the University of Pennsylvania.

Nathan R. Smith, M.D. late Professor of Anatomy in Jefferson Medical College of this city, has been appointed to the chair of Surgery in the University of Maryland vacated by the resignation of Professor Pattison.

George M'Clellan, M.D. Professor of Surgery in Jefferson College, has been appointed by the trustees of that institution to fill for this winter the vacant chair of Anatomy. Dr M'C. has heretofore taught Anatomy with much eclat and we doubt not that the arrangement will be highly satisfactory.

To Subscribers.

The removal of the editor of this journal from Philadelphia will in no way interfere with the progress of the work. For the present winter he has associated with himself a gentleman of great experience as a medical editor, who will superintend the publication till spring; when it will be transferred to Baltimore. The editor will in the mean time continue as usual to furnish communications. The transfer of the Journal to Baltimore will detract nothing from the support which the work has received, the labour having been nearly all executed by the editor. There being no other medical journal in Baltimore it will receive the united contributions of several eminent gentlemen in that city.

Since its commencement this work has obtained 450 subscribers, and the list is now rapidly increasing. Those communications, therefore, with which our friends may furnish us will very generally meet the eye of the profession.—*Editor.*

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No. VI.

Essays.

ART. I.—*Remarks on the Spontaneous Suppression of Hemorrhage in cases of Divided and Wounded Arteries, with Comments on the Physiology and Pathology of the Circulating System. By Nathan Smith, M.D. Professor of Surgery, &c. in Yale College.*

IN confirmation of a position with which I concluded the first section of this article in No. 5, viz. that in cases of ossified arteries the pain produced by the application of heat to the extremity is owing to the capillaries being too much excited for the quantity of blood which they receive, I would observe, that in other similar cases in which gangrene has commenced I have observed the pain to be increased by placing the limb on a level with the body in the bed, and to be rendered more tolerable by placing it in a depending position. I used to remonstrate with my patients in regard to this particular, and earnestly charge them to keep the limb elevated. They, however, persisted in asserting that the pain was intolerable when the limb was raised to a level with the body in bed and greatly relieved when depressed.

This interesting phenomenon is accounted for by the fact that, in such cases, the *vis a tergo* of the blood in the arteries is not sufficient to carry it through those vessels which are themselves inactive and unconnected with the capillaries. Therefore as the blood is with difficulty, and in insufficient quantity, furnished by the arteries to the

capillaries, these latter are compelled to increase their action in proportion to the defect of action in the arteries.

That there exists in the capillaries such a power of thus increasing their action, as peculiar circumstances may require, the following facts will prove :—I once had occasion to tie the external iliac artery for inguinal aneurism. The instant the artery was tied the patient experienced a most severe pain through the limb, and before we had applied our dressings the limb was sensibly colder than the other. At the end of three hours, however, it became obvious that the diseased limb was sensibly warmer than the other, and at the end of six hours both limbs were of the same temperature.

My conjecture was that in the first instance the cold was produced by sudden diminution in the quantity of blood sent to the capillaries by the arteries, causing a suspension of their action, and that the heat which followed was the result of the increased action of the capillaries to attract blood to themselves, a phenomenon analogous to many other operations which take place in the animal economy, and which are usually ascribed to the recuperative powers of nature.

It may seem paradoxical that the capillary vessels should possess the power of soliciting forward blood from the heart, which has been heretofore regarded by most as the only organ *actively* concerned in the circulation of the blood, and even at the present time has chief importance attributed to it. A recent writer of reputation states, as I observe, that the heart, in his opinion, is adequate to the complete circulation of the blood through the arteries and veins. We have, however, many unequivocal facts which prove the contrary.

In every case of local inflammation, before the action of the heart and great arteries is in the least changed, there is an accumulation of blood in the capillaries of the part inflamed. This could not, indeed, take place if the blood was not furnished to them by the heart and arteries; but, in such cases, the action of the heart is not directed to the inflamed part more than it is to every other part, nor more to that particular part than it was before the inflammation took place. It follows, therefore, that the change in the part diseased, producing an increased quantity of blood and an increased evolution of heat, must depend on some change in the action of the vessels of the part, and not at all on the *vis a tergo* of the blood impelled by the heart.

There are other causes which render this power of the capillaries still less equivocal. In certain morbid vascular structures the blood

vessels, of which they are chiefly composed, are observed to have the power of drawing blood from the surrounding parts and discharging it from the system.

A lady had a small vascular tumour on her neck of the size of a common strawberry. It was attached to the skin by a neck less than half the diameter of the tumour and was in a degree pendulous. This tumour often bled and it was observed that emotions of the mind frequently caused it to effuse blood. Sometimes the blood flowed in a small stream, but it generally dropped in large drops which followed each other in quick succession. When the patient, after my being called, was informed of my arrival, the agitation which she experienced immediately caused the tumour to bleed, and on my examining it I found it still bleeding freely.

I immediately cut off the tumour level with the sound skin, and the bleeding at once ceased; not three drops of blood following the operation. In this case the vascular tumour seemed to operate like a pump, attracting the blood from surrounding parts and discharging it from the system. This is by no means a new or solitary case; it has been long known that, in cases of fungous tumours which bleed, the only effectual and certain method of restraining the hemorrhage is to cut off the whole tumour down to the sound parts.

Another example of the same nature, and which serves to illustrate the principle under consideration, is found in those vascular tumours often met with on children, called *nævi materni*. Those tumours are composed chiefly of blood vessels of a very tortuous form; they are always of a higher temperature than the adjacent sound parts, and if wounded bleed furiously; the blood is thrown out from the divided vessels with much greater force than from divided arteries in sound parts of the same volume, as I have had several opportunities of witnessing. For this reason we have been advised by surgeons, in case we remove such tumours with the knife, to make the incision in the sound parts beyond the limits of the disease, that we may thus avoid fatal hemorrhage. If this be done the hemorrhage is as easily restrained as it is in similar wounds on any other part of the body.

These phenomena can not be accounted for upon the principle of mere debility or relaxation of the arteries and veins of the part: their thus receiving a larger quantity of blood but proves the existence of a peculiar action which enables this congeries of vessels to attract the blood from the surrounding vessels.

The fact which I now proceed to state is familiar to most practitioners and especially to accoucheurs. In natural and healthy la-

bour when the child is born alive, if we examine the umbilical cord, immediately after the birth and while the placenta remains in the uterus, we find the two umbilical arteries beating strongly. If we then wait a few minutes and examine that part of the cord next the placenta, we find them beating rather faintly, and by waiting still longer we perceive that the pulsation has ceased in that part of the cord farthest removed from the child. Gradually the pulsation ceases along the cord from its placental extremity until it is no longer felt even at the umbilicus; and if it be then divided there will occur no effusion of blood.

Now the question to be solved is why, after the birth of the child, does the blood cease to pass through the umbilical arteries, in which, a few minutes before, it circulated with so much force. These arteries are branches of the hypogastric, and there appears to be no more impediment to the entrance of the blood into them than there existed before the birth of the child. To me it does not appear attributable to the change of temperature which the part experiences, for the circulation in the arteries ceases while the placenta remains in the uterus of the mother; and as for the cord, it is not more exposed to cold than the legs of the child: and we therefore can see no cause why the impression of cold should not stop the circulation in the latter as well as in the former.

The fact cannot be accounted for by a hemorrhage from the extremities of the arteries; for the blood vessels of the child have no communication with those of the mother. When the birth is perfectly natural, and the placenta separated entire without laceration, there is never any blood from the child discharged by the placenta.

I am not aware that in this cord there exists any mechanical obstruction to the circulation of the blood through the cord, and yet the result which I have mentioned is constant and uniform. Here, as there is no division there can be no retraction of the arteries, and no coagulum formed which can directly or by lateral pressure obstruct the artery; and yet the blood ceases to circulate as promptly as when effected apparently by these causes.

To explain this phenomenon we must have recourse to a law of the animal economy which I have not seen noticed by any medical author; and yet it seems to be a general principle, and certain in its operation. I allude to this,—that when any function is cut off from the system or totally destroyed or superseded, all that action which went to support that function in a longer or shorter time entirely ceases. The placenta during gestation performs the office of lungs for

the fœtus, and after the birth, when respiration is established, this function of the placenta is not wanted and of course ceases ; and the action of the arteries ceases because it would not subserve the functions of the economy, but rather would be injurious. Instead, therefore, of referring this change to mechanical causes, it must be referred to a law of the animal economy : which is the ultimatum of many of our researches, and seems to be pursuing the subject as far as it can be traced.

ART. II.—*Laryngotomy.*

In the early part of this month (October 1827) a little girl, ten years old, was brought to Dr M'Clellan from Bucks county, for the purpose of getting his opinion respecting the existence of a foreign body in the trachea. She laboured under a great difficulty of breathing, with occasional intervals of spasmodic and almost insupportable coughing. She was suddenly attacked with these symptoms five weeks before, immediately after she had attempted to swallow a triangular piece of dried gourd shell. A young physician, who was first called in, decided, in accordance with the opinion of the family and that of the little sufferer herself, that the symptoms were produced by the presence of the gourd shell in the trachea : but several older practitioners, who were afterwards called in consultation, denied their assent to this conclusion. A few days after the accident an obstinate vomiting supervened, in consequence of which the symptoms of cough and difficult respiration almost disappeared, and did not return again until about two weeks after. From the recurrence of these symptoms at that period they continually increased, with little or no remission, until finally they became truly severe and alarming. When the editor of this journal saw her, in company with his friend Dr M'Clellan, she was, at very short intervals, convulsed with a tremendous and long protracted paroxysm of coughing, which appeared to force the superior portion of both lungs upwards into the throat in a remarkable manner, and gave the appearance of a sudden emphysema in that region at every expiratory movement. Respiration was performed with great difficulty, and only with a wheezing stridulous sound which could be heard in all parts of the house in which the patient resided. She could not lie down or sit

for a moment, but had been obliged to sleep for days in a kneeling posture beside a bed or chair. Deglutition was also performed with extreme difficulty, so that she could only get down fluids in teaspoonful doses at long intervals apart. Her skin was dry and her pulse very quick and frequent. She had not been bled, nor had she taken any medicine, excepting one or two laxatives, during the whole period of her illness.

As there had, at one period, been a long intermission in the symptoms, it appeared probable that the foreign body had passed down into the lower part of the trachea; but as for the preceding two or three weeks the symptoms had continued altogether unremitting, at the same time that deglutition proved so difficult and distressing, Dr M'Clellan conceived it possible that the offending cause might *then* be situated within the ventricles of Morgagni. He therefore determined to perform the operation for laryngotomy, and immediately executed it in the following manner. The incision was commenced at the lower edge of the thyroid cartilage by a bold plunge with a sharp pointed scalpel, and carried downwards into the cavity of the trachea below the cricoid cartilage. An aperture was thus made about an inch in length, through which the air instantaneously began to rush with a rustling noise. There occurred but little hemorrhage, from which no inconvenience was experienced. As the difficulty of respiration appeared to be but slightly mitigated by this incision, it was evident that the obstructing cause existed lower down the trachea. A long and slender pair of forceps was therefore carried down as far as the bifurcation of the bronchia, but no foreign body could be laid hold of; and after repeated and abortive attempts, the case was left to the efforts of nature. A large silver hook was inserted into each side of the wound, and tied with pieces of tape carried around the back of the neck, so as to draw the edges of the trachea asunder and allow of the expulsion of the foreign body, in case it should be detached and expectorated by the efforts of nature.

Although the difficulty of respiration did not appear to be greatly improved in consequence of the operation, there was a remarkable subsidence of the cough, both in degree and frequency.

The singular and emphysematous tumefaction of the neck on each side also disappeared; and the patient began to swallow fluids with ease and in much greater quantities than before. After the operation of two full doses of calomel, and under the use of the compound syrup of squills, she also began to expectorate profusely from the

wound. Before the operation her cough had been perfectly dry, and unattended with any kind of expectoration whatever. The febrile symptoms, however, continued unabated; and in about 7 or 8 days after the operation she expired without any convulsion or struggle.

On dissection the piece of gourd shell was found impacted in the left bronchea, about half an inch from the bifurcation of the trachea, and surrounded by tough coagulated lymph*. It was swollen very much in consequence of the moisture which it had imbibed after having been introduced into the trachea, and the cavity of the bronchia was therefore completely filled and obstructed by it. The inner surface of the pericardium was bestrewed with an inflammatory exudation of coagulating lymph, and it adhered to the surface of the heart in several places. The substance of both lungs, particularly the left, was highly congested with blood, and in a great measure hepatized from phlegmonic inflammation.

There can be little doubt that the fatal termination of this case was owing to the total neglect of depletion in the early stage, in consequence of which a secretion of lymph was thrown out around the foreign body instead of mucus. If bloodletting and expectorants had been freely resorted to there would have been no dry inflammation of the mucous membranes terminating in adhesions around the foreign body, and thus confining it permanently in its bed: on the contrary a copious expectoration would probably have taken place by means of which the offending cause could easily have been thrown out through the artificial opening during a paroxysm of cough.

The mode of operating which Dr M'Clellan adopted in this case we conceive to be altogether preferable to the one usually recommended. Nothing can look more ridiculous than to see a surgeon making a long and tedious dissection for the purpose of getting into so superficial a cavity as the trachea. A bold plunge of the scalpel accomplishes the thing at once; and no difficulty need be apprehended from hemorrhage or suffocation.

* The preparation is preserved, and can now be seen in the Museum of Jefferson College.

Adversaria.

ART. I.—*Ossification of the Septum of the Corpora Cavernosa of the Penis.*

An interesting case lately occurred to Dr M'Clellan. A gentleman, 52 years of age, applied to him with incurvation of the penis upwards, which was apparently produced by a contraction and induration of the *vena ipsius penis*. The distortion was so great as to render micturition extremely painful and difficult, at the same time that it prevented all sexual intercourse. Dr M'C. first divided the indurated vein, which presented the appearance of a ligament; in consequence of which the curvature was considerably diminished and micturition improved. In the course of a few days afterwards, however, the patient returned and begged to have something further done for the relief of his other functions. On a careful examination Dr M'C. found that the septum of the corpora cavernosa was quite ossified, so as to present the feeling of a long narrow bone within the substance of the penis. The organ was also peculiarly excitable, so that the slightest handling produced an immediate erection, in which state it assumed the form of a semicircular bow with the concavity upwards. An incision was made along the whole length of the dorsum of the penis, and the indurated mass dissected out entire by carrying the knife on each side of it down to the very back part of the corpus spongiosum urethrae. The ossified substance was so hard as to grate audibly against the knife, the edge of which was entirely destroyed by the operation. A copious hemorrhage ensued, which was soon checked, however, by the sponge and cold water. The skin was brought together by two interrupted sutures, and covered with a light compress and bandage. The preternatural curvature of the organ was not only removed by this operation, but a slight inclination towards the opposite direction was produced. It may be observed, therefore, that in the above proceeding Dr M'Clellan has imitated the common veterinary operation of *nicking a horse*.

ART. II.—*Ligature of the Carotid Artery.* By Dr M'Clellan.

We have, within a few days, witnessed a very interesting operation by Dr M'Clellan, which consisted in the ligature of the right carotid artery in a child aged but *seven months*. The circumstance demanding the operation was the existence of a frightful aneurism by anastomosis, occupying almost entirely the right side of the face. The nucleus of the diseased structure appeared to have been a *nævus maternus*, which after birth had increased with astonishing rapidity. The tumour was of a bright florid complexion and evidently consisted almost entirely of blood. It partly closed the right eye, distorted the mouth and overlapped the nose.

The neck of the child was short and fleshy. Dr M'C. made his external incision rather higher in the neck than is usual, and entirely above the omo-hyoid muscle. The laminæ of cellular tissue were carefully and successively divided until the artery and the vein were exposed. At this stage of the operation the Doctor realized the difficulty described by sir Astley Cooper as arising from the swelling of the vein, and the protrusion of it before the artery. The blood strongly ebbed and flowed in this organ in correspondence with the respiratory efforts, and the operator experienced much difficulty in avoiding it and withdrawing, by means of the aneurism needle, the artery from beneath it. This, however, was at length very adroitly accomplished, and the ligature applied without the occurrence of any untoward circumstance.

Soon after the application of the ligature the tumour was observed to become less tense and more pale, and the pulsation, which before was vigorous, on that side of the face entirely ceased. Some degree of constitutional irritation and restlessness resulted, but on the fourth day had completely subsided; and the operation now promises to be attended with a very favourable result.—We shall report its final effects.

This is the fourth instance in which, within a year, Dr M'C. has had occasion to secure the carotid artery. These operations have for the most part been attended with the happiest results—and none of them with any unfavourable circumstance.

ART. III.—*Remedies for Intemperance.*

Public attention has been recently much occupied with the successful employment, in many instances, of Chambers's medicine for intemperance. Many of these cases are so well attested, that it would be folly to deny the occasional efficacy of the article. It is desirable, therefore, that the nature of the compound should be ascertained, in order that its employment may be safely directed by therapeutic principles. A remedy so active as this is reported to be can not but be extremely unsafe when indiscriminately administered. That it is so is certain from the occurrence of several fatal cases in which it has been employed.

One of these has taken place in this city, it being quite certain that the death of the individual was occasioned by the violent emetic operation of the article. Another instance, for which we can vouch, occurred in the country; in this the powers of life were so depressed by the violent action of the medicine and the sudden abstraction of accustomed stimulants, that delirium tremens was produced which terminated fatally.

In several other instances, which have been verbally reported to us, it has produced delirium tremens and alarming prostration.

There is very little doubt that the compound consists of tartar emetic and ipecac. combined with offensive and nauseating drugs, and that the cure results from the disgust produced by exhibiting the medicine in the accustomed liquor.

The remedy should be employed with great caution in all cases of inveterate intemperance; nor should it ever be administered in such, without substituting something tonic or stimulant, which may support the system for a few hours. Opium would undoubtedly be one of the most important of these. Bark and bitter infusions might also be employed.

Used with a due degree of discrimination and care, the remedy is undoubtedly valuable.

Analytical Reviews.

ART. I.—*Principles or Propositions of Medicine.* By F. J. V. Broussais, M.D. &c. &c.—Part III. *Therapeutics.*

(Concluded from page 239 of last No.)

387. When the bark stops an intermittent, and there supervenes some degree of malaise, engorgement of the viscera, inappetence, and obscure febrile symptoms, we may conclude that the remedy was given too soon, and that chronic inflammation is going on in the mucous membrane of the digestive tube. This state is to be cured by antiphlogistics.

388. When, on the stoppage of an intermittent fever, there follows a bad condition of the digestive organs, the renewal of the fever (accidentally) by cold baths, or purgatives, is fortunate, if each crisis removes the irritation from the alimentary canal. If not, this renewal of the fever is a misfortune. 389. Relates to the proper mode of administering the bark.

390. Those intermittent fevers termed, from their fatality, *pernicious*, &c. can only be treated in the same manner as those to which this epithet is not applied—but we must be more prompt in using the remedies.

391. Dropsy sometimes shews itself at the very commencement of intermittent fevers; but it is more generally the result or consequence of their prolongation.

392. Dropsy, produced by an obstacle to the circulation, yields to bleeding and gentle diuretics, provided the cause of the obstacle be not incurable. Digitalis is useful when this obstacle is hypertrophy of the heart.

393. Dropsy, produced by the sympathetic influence of a chronic phlegmasia, is rarely curable, because such phlegmasia seldom occasions dropsy till the seat of the phlogosis is changed in its structure. The treatment must be directed almost solely to the chronic phlegmasia, and the diuretics should be such as do not irritate the digestive organs.

394. The dropsy which depends on an accidental defect in the

urinary or perspiratory secretions or excretions will yield to the re-establishment of these by the proper means. Diuretics and even purgatives will cure these; but we must take especial care to remove the accompanying vascular plethora, and not to exasperate the phlogosis which may co-exist.

395. Those dropsies which result from bad digestion and assimilation disappear under the influence of tonics, good air, good aliments; but those which are caused by the abuse of mercury or other mineral substances are often obstinate, on account of the gastro-enteritis which accompanies them, and sometimes causes them.

396. Dropsies, resulting from hemorrhages or other evacuations, are cured by tonics, good food, and active diuretics; but we should be very wary, in such cases, of too suddenly restoring the strength.

397. External scrofulous affections, unconnected with internal, may be removed by free application of leeches. The scrofulous diathesis, which is only an extension of irritation from tissue to tissue, will thus be checked. 398. Where this disposition to scrofula is not very inveterate, it may be removed by good air, and especially by exercise in the open air.

399. Stimulant ingesta will not cure the disposition to scrofula, except they excite the secretions at the same time. If they do not excite the secretions and excretions they aggravate the disease.

404. Chronic inflammation of the lungs (phthisis) is more rare than the chronic gastro-enteritis (tabes mesenterica) of infantile scrofulous subjects; because, at this period of life, the lungs are less liable to irritation than the mucous membrane of the stomach and bowels. We should take care therefore not to add to this inflammation by food or medicine.

405. Syphilis is an irritation which, like scrofula, is propagated from the exterior to the interior. It may be stopped by vigorous antiphlogistics at the commencement. Even when become constitutional, syphilis may be eradicated by antiphlogistics and abstinence:—but the process being tedious and disagreeable, mercury and sudorifics are preferred.

406. Mercury cures syphilis by acting on the depuratory capillaries (secreting and excreting vessels) and thus causing a powerful revulsion. It should be seconded by abstemiousness.

407. Antisyphilitic medicines should be administered cautiously, as they are apt, if otherwise used, to occasion gastro-enteric irritation, which, being reflected on the external syphilitic affections, aggravates instead of curing them.

408. When antisyphilitic medicines have produced entero-gastric inflammation; and the syphilis remains; it will not yield till the entero-gastric disorder is removed by a long perseverance in abstemiousness and antiphlogistic remedies.

409. The gastric phlegmasiæ induced by the abuse of antisyphilitic medicines are readily transmitted to the lungs, and phthisis is

the result, if abstinence and antiphlogistics be not promptly employed.

413. Syphilitic patients, predisposed to gastric inflammation or irritation, should be treated on the antiphlogistic plan. If mercury be given internally, under such circumstances, the gastric irritation will be increased, and the syphilis itself often left uncured.

414. It is not safe to cure cutaneous eruptions attended with any degree of inflammation by external stimulating applications. Antiphlogistics should first be employed.

417. The cure of intense phlegmasiæ, as of peritonitis puerperalis, acute rheumatism, pneumonia, &c. by tartar emetic, calomel and opium, oil of turpentine, and drastic purgatives, is not effected by means of direct sedation; it results from the awakening of a great number of organic sympathies which open an extensive door to revulsion and critical evacuations. But if these stimulants fail in their purpose, they aggravate the original disease; and acute disorganization, or chronic inflammation, is the result.

418. It is rare that the cure of severe morbid irritations by violent revulsive stimulants is not followed by chronic irritation, and especially of the digestive organs. It is in this way that many cases of hypochondriasis are produced; for the stimulation of the stomach accumulates the sensibility of this organ, and gives more activity to the sympathies by which it is associated with the various other organs and parts of the body.

419 to 422 Relate to poisoning by various mineral, animal, and vegetable substances. They all act by producing irritation or inflammation first in the stomach and bowels, and reflected afterwards, by sympathy, to the encephalon, &c.

423. Debility is *most frequently* the product of irritation, and *sometimes* constitutes the whole disease.

424. Defective respiration is the most powerful cause of debility:—it produces necessarily abirritation (defective irritability), but sometimes this is preceded by irritation.

425. In excessive spontaneous hemorrhages, even without phlegmasia, the debility is always preceded by irritation; and finally becomes the principal malady. But in traumatic hemorrhage the debility is not preceded by irritation, and to this debility all our attention must be given.

426. The paralysis which succeeds to cerebro-spinal affections is always the product of irritation. The same may be said of the paralysis which follows excessive discharges, not sanguineous.

428. Whatever may be the degree of debility attendant on irritations, it is to these last that we are solely to direct our attention, whenever they are of such a nature as to be aggravated by the ingestion of food or stimulant medicines. When they are under this degree, we may direct part of our attention to the debility, and part to the irritation, which accompanies or causes it. Finally, when the

irritation has ceased, and debility only remains, we are to be very careful in not too quickly removing this by too nourishing food, or too stimulating tonics.

429. Convulsions and pains, by whatever names they may be designated, leave behind them a debility which *sometimes* furnishes the sole indication of treatment; but most commonly there is a degree of irritation left in the organ originally excited which requires to be taken into consideration, when attending to the debility.

430. That debility which succeeds to venereal excesses is always accompanied by irritation of one or of several organs.

431. Excessive external cold produces a debility which advances from the periphery to the centre and may cause death. In these cases the debility constitutes the principal malady. But, if the external impression of cold be moderate, the vital powers excite, on the periphery, or in some of the organs, an irritation which becomes the principal malady, and which solely furnishes the indications of cure, when the external cold has ceased to act.

434. Those miasms which emanate from decomposed animal and vegetable matters, and from the bodies of congregated sick persons, are sometimes so deleterious as to occasion debility, and even death, without re-action; but whenever they produce pain and fever, there is established in the digestive organs (mucous membrane), and often (by sympathy) in other organs, an irritation which furnishes the principal indication of treatment. This is what constitutes typhus—and is then the product of infection.

435. Every person affected with typhus may become a focus of infection for those who are well, and communicate to them the malady, if the patient be situated in a confined apartment, and the emanations proceeding from him become stagnant;—this is febrile contagion. But if the patient be placed in a well ventilated and clean ward, or chamber, this communication of the disease will be difficult. Are pestilential typhus and the eruptive diseases the only ones which can communicate the contagion, in spite of these precautions?

441. When violent gastro-enteritis is prolonged to a certain point, the debility is such as to furnish indications which we must attend to, lest the patient die of inanition; for an epoch arrives when digestion is possible, without exasperation of the symptoms, notwithstanding the persistence of the inflammation.

442. Those people, who have been a long time below that medium degree of embonpoint which comports with their constitution, require a long time to come up to that point again with safety. They cannot support a certain vascular fulness without experiencing the effects of plethora, and risk of inflammation.

443. The sum of vital power diminishes in diseases of irritation, because the precipitation of the organic movements makes decomposition and elimination predominate over composition and absorp-

tion. We must except, however, certain *Bulimial gastrites*, where embonpoint and strength augment, in spite of irritation.

444. The indication of recruiting the strength by means of copious alimentation is not to be drawn from the phenomena of emaciation or debility; but solely from the power of digestion and assimilation.

445. The indication of soliciting the stomach by means of tonics is not to be founded on the debility or the emaciation of the patient, but rather on the paleness of the tongue, the languor, and the slowness of the digestion, after mild and unirritating aliments. Tonics are also indicated by certain pains in the stomach, by eructations, borborygmi, and colicky sensations that often accompany these slow digestions—all which phenomena disappear under a more stimulant alimentation and proper tonics.

446. General debility, without any phlegmasia, requires only good food, with a moderate proportion of wine, if the stomach bears the latter without inconvenience. If the wine causes uneasiness, bitters should be employed.

447. Debility accompanied by phlegmasia, situated elsewhere than in the digestive canal, requires light aliment which leaves but little feculence, the phlegmasia being acute. But this debility proscribes all stimulants. If the phlegmasia be chronic, the debility requires aliment of a substantial kind, but always of easy digestion. Tonics, in these cases, should be very light, and never long continued.

448. Debility with catarrh which exhausts by copious expectoration, unattended with fever, demands aliments substantial but easy of digestion, together with astringent tonics, in small doses, as the bark, the lichen islandicus, and the acetate of lead. Revulsives are here useful, but the suppuration should not be long kept up by counter-irritation.

449. The debility which accompanies acute gastritis requires the treatment necessary for such inflammation; but that which accompanies chronic gastritis demands farinaceous aliment, milk, and even the white meats, taking care to cool the stomach by demulcent fluids when heated by the process of digestion.

450. The debility attendant on chronic colitis (dysentery) requires farinaceous food, deprived, as much as possible, of all feculence that may irritate the colon; and also a moderate proportion of red wine, that may tend to delay the aliment in the upper portion of the intestinal canal; for the irritation of the colon draws towards this portion of intestine the aliment before it is properly assimilated, and this produces the effects of a purgative.

451-2. The debility produced by excessive hemorrhages, and also that which succeeds to violent convulsions (without gastritis), require gelatinous, albuminous and farinaceous aliment, with a small proportion of red wine, together with a cautious use of astringents and fixed tonics. But diffusible stimuli and high-seasoned food are injurious.

458. When, at the commencement of an acute disease, there exists

extreme debility accompanied by great mental depression, it is a sign that the inflammation occupies a large portion of the respiratory or digestive organs, or both at the same time. At this period, if bloodletting, general or local, in place of relieving the debility, increases it, we should not repeat the depletion; since there is evidence that the organs of digestion and assimilation are not in a state to repair the waste of the system, much less any artificial depletion. Demulcent drinks internally—cold and counter-irritation externally are the feeble resources of art on such melancholy occasions.—*Med. Chirurg. Rev. for July 1827.*

ART. II.—*An Essay on Curvatures and Diseases of the Spine, &c. to which the Fothergillian Medal was awarded by the Medical Society of London. By R. Bampfield. London. Pp. 387.*

Pathological and Practical Observations on Spinal Diseases, &c. Also an Inquiry into the Origin and Cure of Distorted Limbs. By Edward Harrison, M.D. &c. London, 1827. Pp. 294.

The endless activity and bustle with which the physical sciences are prosecuted, and the great contributions made by them to human happiness, exhibit the successful and rapid progress of a new era in the history of civilization. The age of miracles, so often said to be past, has again appeared; from the moral it has shifted its seat of triumph to the natural world; and whether we consider its great achievements in the approximation of kingdoms by the increased powers of locomotion, the endless variety of comforts, of elegancies and gratifications which the immense perseverance of intellect every where raises around us and shews up for the anticipation of every desire and the gratification of every wish, or the quelling of the endless aches, pains and throes to which our system is liable, we must confess that the wonders of modern discovery are only to be equalled by the extraordinary conceptions of eastern fiction.

In medicine, whithersoever we turn ourselves, we discover some great section of the intellectual host at work, trying to reclaim some stubborn shoal from the desert incroachment of the ocean of misery and of pain with which we are surrounded, to erect some trophy of ornament or use to improve the terra firma of comfort which providence has already secured to the toiling multitude warring with the innumerable wants by which they are continually beset.

What a field is opened to human industry in the endless combinations of qualities in the bodies of physical nature! A mine of wealth how unfathomable! Its riches too are secured to us by the exertion

of industry and common sense, two faculties moderate in their character, of meek and lowly pretension, but too great in their results not to be considered as the sovereigns of every thing excellent in science, of every thing extraordinary in the achievements of art.

In no subject is this truth more strikingly illustrated than in the history of various kinds of malady treated of in the book under review : embracing, as it does, affections often fatal in their result, and always painful and protracted.

The spinal column, as it gives stability and figure to the body, preserves in their proper relations all the parts connected with the viscera of the great cavities which lie anterior to it, prevents them from injuring each other by undue pressure, and thus secures the free play and exercise of their functions. It prevents cough, dyspnea, catarrhs, inflammations, tubercles, and consumptions in the lungs, enlargements of the heart and the aorta. Diseases of the valves arise from the destruction of the functions of these organs by compression of the parts when the spine becomes distorted. Palsy, imperfect or complete, also follows it. Deformity, by exciting contempt and ridicule, is another evil to be added to this catalogue which, as it tends to bad feeling, malignity and revenge and constant unhappiness in the sufferer, is certainly none of the least, particularly as the disease once fixed is irremediable.

The curvature of the spine differs in degree, in situation, in extent and in direction, in being recent or of long standing : it is most frequent in the neck, because its joints admit of the greatest flexion from the smallness of their surfaces and their ligaments being more flexible : the back, and next the loins are least liable to it ; they become extensive from the continuance of the cause ; their direction is determined sometimes by particular weakness in the muscles of one side, or by the disease attacking one part of the bone composing the joint ; by accident as when a fall or a blow, or exertion in straining, affects one joint particularly.

1. It may occur either laterally, generally to the right side, because in general it has the strongest muscles. 2. Backwards, generally the effect of straining. 3. Forward, occurring in the lower part of the neck or back. 4. The angular projection, occurring in the neck and loins ; here the bodies of one or two vertebræ are partly absorbed and their spines project in an angle. The symptoms of these varieties differ according to their situation : the lungs and heart are affected when it occurs in the neck and upper part of the back ; and the bladder, womb, and lowest intestine, when in the loins.

Sometimes a very slight derangement of the vertebræ takes place ; perceptible only on a cautious examination. From the pressure on the spinal marrow, produced by it, many nervous affections often arise.

Various causes have been suggested for these complaints : by some, as Glisson, the unequal growth of the vertebræ on one side, producing

the crook ; by others, the unequal action of the muscles, drawing the back to one side ; have been considered as the causes : the absorption of the vertebræ by caries is a more certain source of these affections, the body of the vertebræ assuming a cuneiform shape, and thus rendering it impossible to straighten the spine. These however take place less commonly than have been imagined, nor do they always arise from constitutional weakness, and are therefore curable.

The remote causes are thus briefly stated by the writer under review* :

“ Contusions and shocks from falls, sprains of the vertebral joints, scrofula, rachitis, syphilis, rheumatism, careless and habitual malpositions of the body, particularly during its growth, malformation or irregular and unnatural growth of bone, cerebral affections, muscular debility, and old age, may be enumerated among the remote causes ; and, of these, contusions, and shocks from falling, have obtained a sort of popular belief of their being common causes, for most parents trace the origin of their children’s distortions to nurses, or some other persons, having allowed them to fall.

“ Partial or total paralysis of the muscles of the back will produce temporary distortion that can be at all times removed by mechanical means, as long as the vertebræ preserve their natural and regular dimensions.”

The effects of these derangements are various upon the different systems of the body. Weakness and curvature, gradually increasing in the muscles of the back, characterize all the varieties of this disease, though displayed in different muscles in its different species : When seated in the neck, swallowing is difficult, the current of blood is often impeded in the carotid and vertebral arteries ; the mind and general powers of motion are in consequence weakened ; the arms are numb, palsied and affected with spasms. When in the back, the aorta is straightened and the womb, bowels and the lower limbs are debilitated, the artery above the point of pressure enlarges into aneurism, and the blood driven to the head in greater quantities produces apoplexies and palsies.

Sometimes the jugular veins are pressed upon by the cervical vertebræ taking a wrong direction : then a violent head ach is the result ; and if the pressure is great, epilepsy, lunacy, paralysis, and apoplexy follow. If the pressure is made by the lumbar vertebræ, obliquity of the pelvis, stumbling, dropsy, piles, profuse menstruation and leucorrhœa are the results.

When the protrusion is in the back, the derangement of the situation of the viscera produces in every case symptoms of bad health. The circulation through the liver, when it is protruded from its place, becomes slow, the bile and stools pale coloured and defective in

* Bampffield on Diseases of the Spine.

quantity. Indigestion, sallowness of the face, tumid belly, constipation and piles follow; a tightness round the stomach, fever, difficulty of voiding the urine, clammy sweats, weakness of the limbs, stumbling, and at last paralysis.

When the curvature occurs between the shoulders, the form of the chest is straitened, a tickling cough, red face, sweats on the face and breast, gradually followed by the endless train of symptoms which characterize consumption ensue: dyspnea, asthma, obstinate cough, in older subjects where this fatal result does not take place, are produced by the compression and injury of the thoracic viscera.

The system develops more slowly, puberty is later, debility marks every feature, when the disease is fixed.

The principles on which the treatment has been conducted have been various. Mr Pott, believing that caries was the principal cause of this complaint, cured it by issues applied to each side of the spine, and his success was deduced from a fact noticed by Hippocrates, that an abscess of the back often cures a palsy of the lower limbs. The pathological views of Mr Pott were not sufficiently minute and extensive: for the bones are sometimes enlarged, producing pressure upon the spinal marrow, caries does not always ensue, and the ligaments are often affected: his practice by issues is therefore by no means generally successful, though it does great good*.

By others, as Mr Harrison, the relaxation of the ligaments is considered as the cause; and though it is stated that Mr Pott relied on caries as the principal morbid feature of this disease, the relaxation of the ligaments he likewise believed in, and confined his patients to the horizontal posture: as the disease was generally not treated in Mr Pott's time till the deformity had taken place for some time, the union of the bones in their distorted state rendered recovery impossible, though the ulcer was cured.

With regard to this plan, we believe it may be a valuable auxiliary, and that the translation of action by issues to the surface has often without doubt cured the disease; the general principle, that inflammation sometimes affects the vertebræ in all their parts, ligaments, bone, intervertebral substance, the covering of the bone, is a more rational pathology, and as it suggests the necessity of a varying plan of treatment according to the stage of the disease, and does not rely on any one of those we are about to examine particularly, we should prefer it as the directing principle to our practice.

The recumbent posture on a matráss without pillows, as practised by Mr Baynton, accordingly fulfils two of these indications, rest and the removal of pressure, the cause of the deformity, as all motion, even for necessary purposes, is not permitted. This plan succeeds in from seven to fifteen months. Tenderness of the back, with an abate-

* Rush's Arthroacology.

ment of the other symptoms, is the result of this plan: external applications are not used. The muriate of lime is given to assist ossification in the back, and laxatives. The rest is prolonged for two or three months after the symptoms have disappeared.

The plan of Mr Lloyd is founded upon the disease being scrofula, and he treats it accordingly.

Mr Chessher has proposed a steel collar which transfers the weight of the head to the hips, united with occasional rest; a tackle and pulley fixed to the ceiling and to the collar, so as to suspend the person, the toes only touching the ground; as also with a bed so fixed as to enable the patient to be extended by the feet and head when in a recumbent and occasionally a semi-recumbent posture; exercise by riding and walking. The disadvantages of this plan are in the excessive pressure produced by the collar, causing ulceration, great debility from confinement, and the increase of the spinal disease.

Mr Harrison considers, from his experience, that the semi-recumbent posture is of no use and does sometimes great harm. The weight of the collar proposed by Mr Chessher (from twelve to sixteen pounds) he considers as too great. It is fitted to the upper part of the pelvis, by means of a rod extending along the back, and rising above the head. The vertebral column is stretched by the collar for several inches and can be kept in that state for some time. The collar is enlarged as the spine is extended, and thus the growth and solidification of the bones are facilitated. But this is not the fact; for when it is considered that the vertebræ are not composed of bones loosely united by ligaments which in this disease are not insensible, as they are in their natural state, but on the contrary that every effort to pull them asunder by any machinery, as the ligaments are inflamed, must have a bad effect: and in those parts of the vertebræ where the ligaments are not inflamed this constant distention must relax the healthy ligaments; and rendering that part of the bones more liable to be displaced, the curvature accordingly must become greater. The constitution too is often completely destroyed by the operation of this debilitating plan upon the whole system. The weight also is too great for a delicate female to bear.

Of the Outward Curvature of the Spine.

In its commencement, the pain is felt at the seat of the curvature, on using exercise or on pressure on the spinous processes; the pain is a sensation of weight, and is increased by rubbing the part with a sponge wrung out of hot water; great weakness on motion and after exertion occur: the muscular power is developed slowly, the patient is long in learning to walk, and when he acquires it his gait is tottering, slow, and hesitating; sometimes he stumbles, trips, crosses his legs, and falls; when he leaves his nurse it is with fear, he totters, and his knees bend; the limbs emaciate, and become

colder and torpid, with spasms and palsy ; the sensibility of the skin still remaining. This outward curvature is removed by lying on the face, and in that posture the pain and symptoms decline, and the muscles acquire their power. When the patient continues the erect posture the curvature increases, and other parts become gradually involved.

The bony structure of the thorax approximating towards the pelvis, the muscles which arise from them are so relaxed that they can not perform their functions ; the bowels are not evacuated ; the intercostal muscles are deranged from their places and can not perform their functions ; the breathing becomes laborious, interrupted and difficult ; fulness of blood in the lungs, asthma and dyspnea often occur ; the upper or lower limbs become numb and paralytic according as the disease is seated in the neck or back ; the viscera of the upper or lower part of the abdomen also become affected.

The curvature outward generally occurs about the fourth dorsal vertebra, the spinous processes prevent its occurrence in the opposite direction ; the lateral curve is a little lower down ; they are both produced by the pressure of the head and thorax, and generally occur in scrofulous habits, and are followed by caries, involving the intervertebral substances and removing every part of the spine till the processes alone remain.

Ossification, inflammation, and thickening of the ligaments are often discovered ; sometimes the latter are covered with fat.

The spinal marrow is seldom compressed except the cavity of the canal becomes smaller during the growth of the body ; in after life the bones preserve their relative positions. The unnatural position of the spinal marrow renders the patient subject to inflammation of the brain. Of this fact Mr Bampfield relates three cases. The nervous symptoms before alluded to are also the result of a relaxation or stretching of the nerves. In the bowels occur relaxation of the sphincters both of the bladder and rectum ; unnatural situation of the liver, it being detrued below the edge of the false ribs, with a great variety of irregular affections.

With regard to the probable result of this disease, caries and abscess, hectic fever and diarrhea, are unfavourable.

A favourable state of the general health, return of strength, sleep, appetite and colour, with freedom from the stricture across the stomach and pain of the knees, dyspnea, asthma portend recovery.

Violent headach and aneurism are dangerous symptoms ; palsy is often recovered from, though it shews a bad state of the disease.

To promote the general health should be the first object in the prevention of this malady in its forming stage. If scrofula or any other debility be connected with it, it must be removed ; as also all local irritations. Regular hours, healthy food and sufficient sleep in a wholesome air are essential. If the disease originates or is connected with local inflammation, that must be relieved by rest in a recumbent posture, on a matress, on the face.

The corded stricture across the epigastrium is perhaps the best distinguishing symptom of this disease when it occurs in the back. The absence of pain is also generally a symptom; it is, therefore not to be looked for in attempting to distinguish it. Difficulty of respiration, spasms in the extremities, with weakness or numbness or paralysis, and before these symptoms appear a habit of leaning to one side or stooping, indicate it. When caries is formed, hectic fever, emaciation, debility, with some pain on pressure on the diseased part of the back, are also diagnostic signs to be taken into view.

The permanent irritation produced by the curvature sometimes causes hectic and debility, even where caries does not take place. Bampfield states that he has seen two cases in which loss of appetite, languor, torpid liver and bowels, and dyspepsia, paraplegia and disordered kidneys, occurred without caries.

Lying on the face is recommended by Bampfield from its tendency to repress excurvation, particularly if seated low in the back; the joints of the back are separated, and the regeneration of bone is promoted: in the first stages it is absolutely indispensable. The muscles of the back, the head, the arms and legs may be exercised in this posture, and thus the general health assisted. The pressure of the sternum backwards and of the ribs outwards has a tendency to render the thorax circular, and of course to permit the lungs to play freely.

The exercise of the legs and thighs, when the patient lies on his back, tends to increase the curvature outwards; in that position also the pressure is too great on the projecting part; it produces excoriation, and the patient, to relax the psoas muscles, is induced to keep the thigh bent on the pillow which perpetuates the distortion; besides it prevents the exercise of the dorsal muscles, and also the application of issues, friction, pressure and all other external means. The pus also, when the patient lies on his face, is prevented from settling on the surface of the vertebræ, and from sinking into their cavities and thus irritating them. A feather bed enables the vertebræ to fall into their natural position, the abdomen sinking into its surface, and thus permitting the vertebræ to fall into their natural line, inclining forward to support the bowels; and after the proper figure has been acquired by the spine, then the alternate posture on the back and belly will be useful. The position and bed must in all cases be accommodated to the place of the curvature: to illustrate this the following paragraph from Bampfield's essay will suffice.

“When the excurvation more particularly involves the upper dorsal vertebræ, so that the 3d, 4th, or 5th dorsal vertebra forms the centre of the curvature, the observance of the facial horizontal position will tend to reduce the vertebræ forming the arc, situated *below* the centre of the curvature, to their proper spinal line more than it does the

cervical and other vertebræ situated above the centre; for in this position, the weight of the head frequently bends the cervical and upper dorsal vertebræ forwards, more than it would in the opposite position, so that it generally happens, the lower part of the curve is brought nearer to its spinal line, in a much greater proportion and shorter time than the upper.

“In this case, after having observed the facial horizontal position for about three months, it is proper to reverse it, and place the patient on the back with the occiput resting in a hollow rather lower than the spinal column, by which the upper part of the curve will be inclined backwards to its natural axis. This is the most difficult part of the cure to accomplish, for the spine naturally advances forwards, in the part formed by the cervical vertebræ, to support the œsophagus, &c. and the appended weight of the head has a greater effect in preventing the re-organization of any absorbed portions of bone at the maximum point of pressure. However, this position of the head may be observed in bed at night time, during the growth of the body, in all which period, nature will unremittingly and unerringly exert herself to remedy the deformity, and supply deficiencies. In the cases in which palsy of the lower extremities had supervened, and begins to be removed, the position of the patient should be varied during the day, and he should be directed to turn on the back, and exercise the muscles of the lower extremities in every way he can, without fatigue or pain, in order to restore the strength and natural size of the muscles previously wasted.”

With regard to the use of pressure, the plan particularly proposed by Mr Harrison, to replace the vertebræ which are displaced, consists in applying a shield hollowed out, and lined with leather stuffed with wool, to the projecting vertebræ, and by pressure gradually made forcing them into their places: this result is assisted by extending the spine, by the neck and legs, by means of a windlass, the patient lying on a matress, and the shield being placed below, so as to force the vertebræ into their places by the simple pressure of the body; also by raising up the body, frictions on the vertebræ, daily pressure, and afterwards retaining the vertebræ in their situations by strips of adhesive plaster drawn over them; or a shield stuffed is secured by a bandage round the chest and thus the pressure is kept constantly up against the protrusion. These plans constitute the particulars of this mode.

Mr Harrison brings several cases to illustrate the success of his plan. The recumbent posture was used in all the trials. Without it, the pressure would be of little use, as the bones are displaced as soon as they are put in their proper positions, provided the patient be kept erect. The union of the recumbent posture with occasional pressure, according to Mr Harrison, makes the spine completely straight, and establishes the health: as the extremities are capable

of free motion, as well as the head and neck, the patient can take almost as much exercise as he can in health.

In applying pressure Mr Harrison states that hysteric convulsions were produced in one case when it was applied to the parts between the spine and the left shoulder, or on the elevated transverse processes in the lumbar region; and that it was the constant result, and appeared to be entirely involuntary.

If the case is not so far advanced as that any spinous process projects unusually, the posture on the belly should be continued for six weeks, and then a cautious trial should be made how far the treatment has succeeded; great care should be taken that the change to the erect position should not be too sudden: The abatement of the symptoms of the stricture across the epigastrium, the difficulty of breathing, and the other symptoms peculiar to this affection, will shew the advancement of the cure and more particularly the propriety of an attempt at the erect posture. The increase of the general health will always be a good evidence; as the strength of the dorsal muscles to support the body is the *sine qua non* of the cure. At first the attempts at sitting up should be short; and if no uneasiness, pain or debility is the result, it should be cautiously increased, particularly as inflammation may be present, when motion will be hurtful. If there be four or five vertebræ involved in the curvature, if the case be recent and scrofulous, it will require three or four months to recover it. If, from the excess of curvature and the long continuance of the case, hectic, &c. it appear that caries has taken place, a long time will be required, as the bones may be broken in resuming the erect posture. If the curvature arise from rickets, the effect of exercise will be very decided, more particularly of the dorsal muscles: Accompanied with frictions and all the other means of strengthening the system, tonics, pure air, animal food, the use of the phosphate of lime, &c. it does great good.

Friction with warmth is also useful in paraplegia. Combined with flexion and extension of the limbs and warmth it has the best effects.

When scrofula is the cause of disease, it must be combated by v. s. from the part frequently repeated in the first or inflammatory stage followed by blisters, setons and aperients; and after the ulceration stage has commenced, tonics, sulphuric acid, muriate of barytes, of lime, the sulphate of quinine, &c. should be used.

In the very first stage purgatives are very valuable. This plan, instituted by Dr Physick, succeeds both in the disease of the hip and back. They should be given in sufficient doses to produce a free evacuation of the bowels every day. Jalap and cream of tartar will answer perfectly well for this purpose. The purgatives must be given in very large doses; and it is necessary to keep the patient on an excessively low vegetable diet at the same time; and the back or hip

perfectly at rest, the former by the recumbent posture, the latter by a splint fitted accurately to the part.

In the first or forming stage local cold bathing, applied with a sponge to the thighs and arms, has also been found serviceable; if there be a disposition towards pectoral or rheumatic complaints, it will however be improper. Rhubarb, chalybeates, bark, steel, carbonate of potash, will be useful when the digestion is impaired; and if there be great pain, particularly in sleep, with screaming, opium will be found to be valuable.

Asthmatic and other pectoral symptoms are treated by the plans in general use for their respective cases.

The vapour bath often relieves asthma in a happy manner. The common remedies for this affection must at the same time be continued. Lying on the face is particularly useful in preventing its frequent recurrence. United with the bandage round the chest, they are found to be useful in preventing and relieving dyspnea, one of the most troublesome symptoms attendant on the deformity of the chest.

The kidneys are sometimes diseased, the urine being turbid and in small quantity with brick dust sediments. The carbonates of magnesia, potash, or soda in this case will be found to be valuable. The catheter must be used when the bladder is unable to expel the urine.

Gradually, when the health begins to return, which often happens in four or five weeks, all the symptoms abate; the tightness of the epigastric region, dyspnea, with the unhealthy signs in the other secretions, are gradually removed; the palsy of the limbs goes off with spasmodic and involuntary contractions during the night, the limbs become warm, the mind cheerful; sleep, appetite, and all the signs of perfect health, return.

The effect of the recumbent posture is immediate: for as soon as the pressure is removed the bones begin to recover themselves, and fill up by granulations which become bone, and if only the surface has been absorbed, it is filled up with callus; the ligaments on the posterior side become bony, and the anterior spinous ligament is covered with fat which is gradually ossified in cases when the bone is renewed, and thus the diseased vertebræ become one solid mass, supporting the whole weight of the body.

Various projects have been invented to give strength to the dorsal muscles, by different modes of exercise, as games, &c. by supporting the back; these we proceed to detail.

The exact state of the diseased parts and of the general system must be first ascertained. This disease often originates in ricketty or scrofulous systems, before the inflammation or ulceration takes place, when debility of the muscles is the sole cause; this debility gives rise to awkward postures, which become confirmed, and by the pressure of certain of the vertebræ on those which correspond

to them at certain points, ulceration of the bones at length takes place. In this first stage, to renovate the weak dorsal muscles, exercise is essential: this, however, must be practised in the horizontal posture. In rickets, and in the forming stage of scrofula, or in those which arise from awkward postures, exercise is decidedly valuable; as also when the disease is so far subdued as that the recovery of the bone is sufficiently solid to bear the weight of the body. The state of the part must be ascertained in the latter case with the greatest attention and care, as if there be any pain, irritation of the pulse, lassitude continuing a long time after each attempt, we must be careful not to repeat the erect posture till after the patient is thoroughly rested and the fever is subsided; and the first efforts must be made with the greatest caution. The state of the sleep, appetite, secretions and excretions will be a very good guide; if they have been perfectly natural for some time, and the strength increases, the patient must be on the recovery: In cases of caries three or four months must pass before an attempt is made; of its safety, the establishment of the health, for a long time, is the best evidence; for newly formed bone is spongy and not as in other cases; it is easily broken.

The object of all the mechanical contrivances invented for facilitating exercise is to bring into play the layers of muscles which cover the back and breast, and also those of the neck, arms, and lower extremities, and they must be so ordered that each muscle may be exercised sufficiently, increasing gradually the quantity as the system grows stronger; the plan of operation also must be so regulated that the time passes in constant occupation to effect this desirable end, as far as is consistent with the strength.

These modes of exercise may be contrived by the practitioner. Balls may be suspended from the ceiling; weights and pulleys so planned as to bring into action all the muscles of the legs and arms, rewarding the child if he exercises to a certain extent every day; battledore and shuttlecock; swinging by the arms with the head bent backwards; carrying a weight upon the head; a stool inverted, with clothes put round the feet to keep it on, will be a convenient plan; the weight should be gradually increased, as the patient becomes stronger; or,

A weight suspended by a cord is thrown over a pulley; the cord is attached round the forehead of the patient and he is directed to raise the weight by throwing back the head; thus exercising the muscles on the back of the neck.

Whatever mechanical assistants may be invented, the patient should be left completely at rest afterwards: all uneasiness, fatigue or lassitude should be guarded against and particularly if it be the result of continuing the exercise; and as soon as the slightest signs of it take place, all motion should be omitted; attitudes that are in the least uneasy should be avoided; the erect posture is the only safe one.

A particular description of the apparatus used for supporting the back and head must be sought in the books themselves. Bampfild is especially minute in his account of them; a few of them are subjoined to give the reader an idea of their general character.

“The instruments and mechanical apparatus invented have been applied to different purposes. Those for exercising the muscles have been considered at some length. Other mechanical contrivances and apparatus are calculated to answer the following objects. To stretch the spine, and thereby assist in straightening it where it is curved; to open or widen the spaces between the bodies of the diseased or deranged vertebræ; to keep the spine extended; to prevent its deflection from the upright attitude to any curve or malposition; and by these means to aid in preventing distortion or to assist in its cure. These mechanical apparatus are constructed to promote or attain these objects in the different positions of standing, sitting, or lying on an horizontal surface or an inclined plane, some being calculated for use in all those positions, and others in only one; whilst one is only adapted and applicable to one purpose, and another to one or more purposes. The instruments are either employed temporarily, as, for instance, with a view to allow the patient to sit up or walk about for a limited time, or they have been worn constantly so that their action became permanent. The instruments used in the erect and sitting postures are, swings for the arms or head; a chair with moveable arms as axillary supports, and a curved steel bar fastened to its back, and projecting over the head with steel bows suspended to it, that traverse on a pivot or swivel, with bands or straps to pass under the chin, or under the chin and occiput, to bear the weight of the head and occasionally suspend the body. The instrument commonly known by the name of collar is a spinal machine that might be more properly called a spine supporter, and is one with which the profession is familiarly acquainted in some form or other, for there are many different forms or modifications of it.”

“Of late, the collars or spine supporters are made nearly alike in principle and application, but with different degrees of neatness and ponderosity, and with some little difference of effect. It would be occupying the time of the reader unnecessarily, to describe more than an outline of one, which is simple and the least ponderous. It consists of a back-plate of iron, which covers the shoulders, and has leather straps to pass over the shoulder joints, of a circular hoop of iron, which encircles the pelvis, and which is fixed by a leather strap and buckle over the pubis, or it is made with pads and springs to grasp the spine of the ileum; of upright bars to unite them; and of a rod to support the head. The back-plate and circular hoop are united either by one rod of iron, passing along the centre of the spine, or by two light ones which pass on each side of the spinous processes; to the back-plate are affixed two axillary supports or moveable crutches,

that pass under the armpits, and either the curved or forked steel rod or bar, that passes over the head or under the chin, is fastened to the back-plate by joints, which do not admit of motion, or the lower end of it is received in a hole or socket of the upright back-rod, which allows it to traverse with the motions of the head. The forked rod generally traverses on a pivot. Some spine instruments have a strong elastic steel plate on the side, to press on the projecting ribs in lateral curvature. Some are made without a back-plate and have, instead of it, another circular hoop, that passes round the trunk in a line with the axillæ, where crutches are formed for their support. These have two lateral connecting bars, and the whole are made light. Some are made to allow the arch of the instrument to fall back."

With regard to the construction of collars, they should be light, and the straps that pass under the chin should be so fixed that they do not press upon the masseters, &c. To give a full view of this subject, the following extract will suffice.

"The collar with two back rods is preferable in excurvation, as that with one necessarily presses on the projecting vertebræ, and occasions pain and sometimes ulceration. Those, made with back-plates and springs and pads to seize the spines of the ossa illii, and subject them to superincumbent weight, do not appear to me to be so light and comfortable as those with circular hoops and straps, which have no particular injurious effect by occasioning unnatural pressure, as do the former. The collars with steel rods for the support of the head, that traverse, after Mr Portal's plan, are preferable to those that are fixed, as they allow of some motion to the muscles of the neck. The straps, fastened to the curved steel rod that passes over the head, for suspending it, occasion much pressure on the maxillæ and cheeks, by which these bones, in a growing person, may be distorted or their natural growth and form prevented, and the muscles of the cheek may, by this pressure, become partly absorbed, and the features deformed. The pressure of the ponderous collars on the hips and shoulders also occasions absorption of the soft parts and muscles in those situations. Hence it is, the forked collar is preferable to the curved, as it does not occasion any pressure on the cheeks, and but little on the chin.

"The following is the mode of applying the collar. The trunk part of the collar being firmly fixed on the pelvis and shoulders, the patient stands under a stretching apparatus; the vellum bands or straps, hooked on the bow of the head-piece, are placed under the chin and occiput; the body is then lifted up and spinal column stretched by means of a cord and pulley attached to the head-piece, and when it is sufficiently extended, the steel bar or rod is fixed and retains the trunk of the body almost immoveable in that position, so that the whole weight of it is borne by the bands already mentioned, which necessarily press hard against the chin and cheeks. With

this instrument, the patient may walk and sit without much superincumbent weight being thrown on the vertebræ, but it is properly objected to its use, that it keeps the muscles of the trunk and spine in total inaction, if constantly worn, although it keeps the spine extended."

With regard to stretching the spine in the lying posture on the face, it may be done by two assistants pulling at the lower extremities, and the armpits or head according as the cervical or dorsal vertebræ are the seat of disease, or by a windlass, a cord being fastened round the ankles, the counter extension being made by a bandage under the chin: half an hour is the longest period during which it can be continued without uneasiness.

The pressure of a bag of sand or shot laid upon the excurvated part, the patient lying on the face, will be found useful. The following plan of extension and support is given by Dr Darwin, and is worthy of being known.

" 'For this purpose,' he says, 'I have made a steel bow, which receives the head longitudinally from the forehead to the occiput; having a fork furnished with a web to sustain the chin, and another to support the occiput. The summit of the bow is fixed by a swivel to a board going behind the head of the bed above the pillow. The bed is to be inclined from the head to the feet about twelve or sixteen inches. Hence the patient would be constantly sliding down during sleep, unless supported by this bow, with webbed forks, covered also with fur, placed beneath the chin and occiput.—There are also proper webs lined with fur for the hands to take hold of occasionally, and also to go under the arms. By these means, I should hope great advantage from gradually extending the spine during the inactivity of the muscles of the back, and that it may be done without disturbing the sleep of the patient; but if it should happen, the bow is made to open by a joint at the summit of it so as to be instantly disengaged from the neck by the hand of the wearer.'—*Zoon. vol. iii. p. 141.* A weight occasionally fastened to the feet would give more extending effect to this mechanical contrivance.—The objections I have made to the use of the inclined plane do not apply to this modification of it; for as the head is fixed, no weight or pressure is imposed on the spine by its employment."

Dyspnea may be always removed by lying in an oblique position on the projection as above so as to enlarge the thorax, with tonics.

These plans of support are only to be used in those cases where the inflammation has entirely subsided, and where the back is sufficiently strong to support in a great measure the weight of the body. When the inflammation and absorption of the bones have continued for some time, fracture of the vertebræ might take place if any force to stretch them was applied; in children particularly any extension is often dangerous and unnecessary; the pad, and bandage, with the shield, tonics, the cold bath and other means that support the strength, are generally sufficient.

When rickets, malformation or debility is the cause, then the head and back may be supported by any of the contrivances before mentioned, alternated with the position on the face: These, however, must be left to the judgment of the practitioner, to be adopted or laid aside according as the inflammation, &c. may indicate. The advantage of the collar and other supporters is particularly evident when the disease is in part recovered from; the recumbent posture, however, must be persevered in as long as the back exhibits any remaining curvature, particularly when he is disposed to sit; and as he recovers he may at first use a position slightly inclined, and gradually rise to the erect attitude as he grows stronger.

Dyspepsia is more frequently the result of lying on the back more than on the face; and the occurrence of this symptom is made by some an objection to the use of the plan altogether; it only shews that the exercise of the feet and legs, frictions, &c. have not been used sufficiently. If it should notwithstanding be obstinate, a removal from the position on the back to the face will be found useful.

The plans above enumerated will generally succeed in recent cases, in curvatures the result of malposition, and where there is not much destruction of the vertebræ or their cartilages, or where no malformation of bone exists: Curvatures of long standing, with malformation, great destruction of the vertebræ, will always be followed by some projection.

Parents are generally too indulgent to permit the directions to be followed long enough to complete the cure; it is therefore necessary to give them a clear idea of the difficulty of the undertaking and the danger of not using the proper means before commencing it.

Of Inward Curvature of the Spine.

This variety is less dangerous than that last mentioned; and it occurs most commonly from disease in the neck, back, or loins; accident also produces it, as a strain. Psoas abscess, with lameness of one extremity, is generally the result without any remarkable derangement of the nervous system. The vertebræ become thinner on their back parts and exhibit the appearance called hollow-backed. Incurvation is produced by the contraction of the psoæ muscles in psoas abscess, the weight of the thigh drawing the back forward and downward; also from heavy weights upon the head and neck; the shortening of one extremity from diseased hips; and a disproportionate growth of the bodies of the vertebræ.

Large heads inclining backwards produce incurvation of the neck, rendering respiration and swallowing more or less difficult. Rickets is also its cause.

The lumbar variety is temporary; the cervical permanent: when the patient sets his foot to the ground the flexor muscles of the

thigh in the lumbar variety bend the back and in this manner produce a peculiar effect on the gait in walking.

This distinction is important, as mechanical contrivances are unnecessary in the lumbar variety, since position is sufficient to restore it.

From the solidity of the back parts of the vertebræ the curvature inwards occurs less frequently than excurvation, and from the interlocking and firmness of the dorsal vertebræ, incurvation is less common than in those of the neck and breast.

This variety is best treated by the following plan; when it occurs in the neck the patient should be laid upon his back, and the chin should be drawn inwards towards the neck, causing the cervical vertebræ to be thrown backwards; occasional extension also frequently applied will be useful. When it occurs in the loins, the thighs should be occasionally bent on the pelvis, but not kept so constantly, as they would have a tendency to establish a permanent contraction.

The application of Dr Darwin's collar, or extension, may be made and frequently renewed by the hands of two assistants.

"Proper position will also contribute to the recovery, by taking off the superincumbent weight and pressure of the head, and by assisting in keeping the cervical vertebræ extended. For these purposes, the patient should have his head fixed in a socket let into the plane on which he lies, with his chin bent on the chest, and extension of the cervical vertebræ should be resorted to immediately before the occiput is placed in the socket; the plane should also have a slight angle of inclination at first, that may be afterwards increased. —For, the head being fixed, its weight does not press on the vertebræ, even when the patient lies on an inclined plane. Friction and shampooing should be employed. Leeches and blisters may be prescribed, if any pain or inflammation arise. Appropriate remedies should be adapted to the different constitutional disorders that may accompany incurvation, similar to what have been recommended in excurvation. Tonics are, in general, indicated."

The matrass should be unyielding; and where the incurvation proceeds from the contraction of the psoas muscle, as it does in psoas abscess, the pressure must be made early, as without it the contraction becomes permanent, and is never relieved by the ordinary means of friction, warm fomentations, exercise, &c.

Constipation, headach, and partial palsy of the upper and lower extremities are the consequences of a force protruding some of the dorsal vertebræ forwards without complete luxation or fracture.

The patient then must lie on his back on a feather bed; the head must be raised and the thighs drawn up; in this position the back yields and assumes its natural line more easily. To these should be added extension of the spine and pressure on the ribs, so as to reduce the figure of the column to its natural line, according to the seat of the curvature.

Of the History of Curvature to one Side.

Frequent inclination to one side, caries spreading in an irregular manner on the sides of the vertebræ, are the usual causes of this variety; which occurs rarely in infancy or adult age, but most commonly during the growth of the body.

Undue pressure on one arm; unequal length of the lower extremities; muscular debility; rickets; tumours; rheumatism; weakening on one side of the dorsal muscles; more constant use of the arm on one side than upon another; sleeping always on the same side; an abscess on one side of the neck or chest, producing weakness of the muscles on that side from deficient exercise; the distortion called wry neck; a large head;—are all causes of the lateral curvature. They act by producing absorption on one side of the vertebræ affected, thus making a curve at that part. When scrofula causes a derangement of the vertebræ, it always operates upon the whole body of the bone.

Lateral curvature, when it once begins, must be increased by the pressure of the head and by the use of one arm. Of all its causes, in the observation of Mr Bampfield, the unequal length of the limbs is the most frequent; it sometimes proceeds from an unequal growth, sometimes from a bend at the ankle, knee or of the whole extremity. When the extremity is crooked equally at the ankles, in the course of the tibia at the knees, or the whole extremity, the spine does not bend to either side, but remains straight; but as soon as the weight of the body presses on the spine unequally from being unequally supported on one side by the shortness of one limb, then lateral curvature takes place. This disease is seldom fatal, except when there exists in the system a scrofulous taint. By temperance, pure air and exercise, the health may be a long time preserved; dyspnea and asthma are often its consequences; but with that exception and a generally delicate constitution, there are no prominent derangements of system.

The following hints, given by Bampfield, for ascertaining the degree and course of the curvature, as also the presence of inflammation, may be found useful.

The first is determined by the patient's assuming a perfectly erect position, and by suspending a plummet from the middle of the occiput, and then the precise degree of curvature to one side or the other may easily be known. By stooping after assuming the perfectly erect posture; by drawing the patient by the head and heels; or by suspending him by the head, with weights tied to his heels, the possibility of bringing the spine to a straight line may be determined. If on these trials the spine be made straight, if the vertebræ change their position, and perform some degree of motion, it may be said that anchylosis has not taken place. If there be no pain, the absence of inflammation may be inferred; if, however, it is

not possible to straighten the spine by any of the above means, ankylosis has taken place; and if there is great pain on every attempt, then inflammation certainly does exist. The prognosis and the plan of treatment of course must be regulated accordingly.

Of the Treatment of Curvature to one Side.

When it arises from the disproportionate length of the two extremities, "during the growth of the body, from one extremity being shortened, by the ankle or knee joints bending either outwards or inwards, in consequence of the relaxation and weakness of their ligaments, or of the ricketty growth of the heads of the bones forming the joints, these states can be remedied by wearing the apparatus particularly constructed for this purpose, and on the extremity being restored to its natural dimensions, if the lateral curvature has only been slight and incipient, it will generally recover, provided pains be taken to maintain the body erect in sitting and walking, and this exertion be aided by friction and pressure on the back, and extension of the spine. Appropriate internal remedies should be combined with the mechanical means, in order that any defect or disease of the constitution may be remedied.

"An inequality of the length of the extremities may be produced by the blighted or diminutive growth of one of them, which will dispose to a lateral curvature; in this case, the patient should wear the instrument made by machinists adapted to such instances, which places the body in equilibrium; and if he be young and growing, friction, exercise, warm bath, and stimulating liniments may be used a long time, with considerable success, in promoting its future increase of growth, and in restoring its equality of length."

The extraordinary growth of one of the extremities is the most frequent cause of this curvature, and is remedied by wearing a shoe on the shorter extremity with a sole thicker in proportion to the length of the longer extremity, bringing both limbs to a level. The loss of the natural arch of the tarsal bones is another deformity which produces it, and is cured by an apparatus which retains the bones in their natural situations. When the change in the lower extremities is slight and commencing, then it may be obviated by extension, pressure, wearing a spinal machine with lateral or axillary supports to prevent the spine from leaning to one side; and when the curvatures are extensive other means must be used. If the use of the erect posture should be unfavourable to the growth of the stunted lower extremity, then the recumbent position may be assumed, and the exercises which tend to strengthen the system may be used, as friction, percussion, shampooing, local warm bath, cold bath with chalybeates and pure air, keeping the bowels open with rhubarb.

When the disease of the limbs is in danger of being increased from walking and standing, sitting up may be substituted, without

this bad effect. This applies, however, only to the incipient stage, in which this disease of lateral curvature differs from all others. The spine may be held erect, a weight being borne upon the head; or the pelvis may be fixed, and the muscles of the back may be exercised with the plays and contrivances before mentioned; alternating every effort with rest: setons and issues of course are useless, when the disease proceeds from disproportioned length of one of the lower extremities, which is to be remedied only by time; the use of bad postures, which may injure the back, being at the same time avoided; and to gain this object the recumbent is the most effectual.

When the curve arises from carrying a weight upon one arm, from inclining the body to one side, the discontinuance of the practice, carrying a weight upon the head, marching with the head up, the shoulders braced back, exercise of the muscles of the arms, and rest after fatigue, are the best remedies; using, at the same time, tonics, chalybeates, mild laxatives and regular hours of exercise and rest. If it arise from a sitting attitude, the erect posture should be assumed, and recourse be had to the exercises advised for the sitting and standing postures, before advised. When from sleeping on one side, the person should lie on both alternately.

Flexion and extension of the spine in this form, as it exercises both sides of the spine equally, is useful: also the equal exertion of both arms, as by turning two wheels suspended on the same axle, with a double crank between them, so as to enable the patient to take hold of and turn them. Wheels may be placed in different situations, and may be of different weights, so as to enable the patient to exercise the limbs. Weights more or less heavy may be suspended in the air to play with. Light dumb bells will also be advisable.

Young girls at school, who sit long, should be provided with chairs with properly formed backs, to support them; they should not remain long in one posture, but have the constant benefit of free exercise in the open air, avoiding fatigue. Tonics, nourishing and strengthening food should be taken, as beef, mutton, and fowls; all slops and watery diet should be dispensed with. In ricketty cases this plan, though much recommended, it is to be regretted, has not always succeeded. In this form of curvature, when the disease is advancing, the recumbent posture is to be preferred, as every other increases the disease.

Both in the forming and more advanced states extension, proper position, pressure, friction, shampooing, exercise in the recumbent posture, lying on the hump, a bag of shot placed upon it or a lump of lead properly fashioned; and when the curvatures are ambilateral, the position should be changed from one side to the other. Extension of the spine as long as can be conveniently done by persons pulling at the extremities or apparatus fixed to the frame of the bed. Darwin's steel bow will also be of use.

During the extension, pressure should be made with the hand upon the projecting vertebræ, and if there are two or three curvatures several persons may assist.

The patient should always be recumbent, wear stays to prevent displacement during sleep; or a bandage with the pad and stays; or the steel bow which will render them unnecessary. The exercise should be varied by lying on the face and back, and then a greater variety of muscles will be called into action. As the intercostals are shortened, it is necessary to raise the ribs by putting the fingers below their lower edges.

“The patient might be laid on the convex side of the dorsal curve, across some pillows or a circular frame made for the purpose, with the head and lower extremities bending over, in which position, the intercostal muscles would be put on the stretch, and the ribs separated on the opposite or concave side of the curve. This position will be rendered more efficacious if the arm on the concave side of the curve were raised over the head and moved up and down, whilst a little pressure was made on the spine of the ilium of the same side.”

Dyspnea may be always removed by lying in an oblique position on the projection as above, so as to enlarge the thorax; with tonics, aperients, chalybeates, cold bath, and rhubarb. This position will also be found to be useful in fits, chorea, pains of the head, and spasms. there is pain, local v. s. and blisters will be proper.

Lying on the opposite side in cervical curvatures, extension by a back-board or collar with the forked rod under the chin, will also be useful.

Pain on pressure, or on assuming the erect posture, shews that there is inflammation, or caries, affections which endanger life; lancinating pains in the back, screaming in the sleep, also shew the same states: when they exist the recumbent posture is the only safe plan. When rickets is the cause, there is seldom any pain either from pressure or the use of mechanical means; in the scrofulous, the appetite, digestion and general health become enfeebled from the first.

When ulceration takes place and pus is formed behind the mediastinum, &c. hectic, emaciation and death are too often the consequences. Issues, setons, blisters, free purging, cupping, easy digestible and nourishing diet, gentle alteratives should be then used. Gentle extension of the back, alternation of exercise, and rest also when the back begins to be re-established, with the same cautions as in excurvation.

In the very first steps, when the curve is entirely lateral, without pain or crookedness of the spine, proper exercise of the dorsal muscles, without the recumbent posture, wearing the spine machine or collar, with lateral or axillary supports and rods for supporting the head, with the remedies for rickets, are the best means. Whenever the erect posture is necessary, this spinal instrument must be used.

Distortion of the pelvis, according to some, is the pretty uniform result of machines, which throw the weight of the upper parts of the body upon it, and therefore in women this circumstance must be taken into view, and all such measures, calculated to produce this effect, are to be used with great caution.

In ricketty subjects particularly they may have this effect, as the disease is one of the whole system and may affect different parts of it at the same time ; and more particularly if during the growth of the pelvis a smaller instrument is used than the size of that part of the body requires.

In the use of instruments, they should never be made to press upon the ribs, or on the costal and scapular projection in particular, as such pressure never does any good ; but may increase the deformity.

The cure of rickets during the recumbent posture completely refutes the objection advanced by Shaw, that this posture necessarily renders the bones soft. Mr Bampfield's experience in cases in which the recumbent posture had been long used shews clearly that softening of the bones is not by any means a common result of it.

With regard to the length of time necessary to cure spinal curvature, if it originate from carrying a burthen on the arm, it will be cured in a few months, if recent, by exercise and omission of the malpractice ; if from unequal length of the extremities, and it also be recent, it will be cured in the same space of time by abstaining from walking.

If the subject be ricketty, and a cuneiform state of the bones be induced, and the ribs project backward, one year at least will be necessary. If the disease be scrofulous the end of it will be uncertain. When it is ambilateral, the greatest industry in the use of the means is necessary ; and if employed during the growth of the body, an improvement proportioned to the time employed may be calculated upon. When the growth is complete, it is impossible to effect any change in the distorted structures.

Angular Projection of the Spine.

The lumbar vertebræ are most subject to this variety, which consists of a projection of several of them, produced by the absorption of the intervertebral substance and parts of the surfaces of their bodies. The projection at its lowest point is sudden, and stands out beyond the spinal line from an inch to an inch and a half, whilst five or six of the vertebræ above are gradually raised from the most projecting one. The sternum projects a little, as in excurvation. The patient soon becomes debilitated and fatigued from exercise ; the legs waddle or cross and the patient falls down ; or the muscles of the back become weak, and he stoops forward to support himself. The pains are sometimes sudden, severe, and lancinating, and com-

pel him to scream aloud, particularly at night : abscess generally exists in these cases.

A slight angular projection commonly accompanies lumbar abscess ; owing to the absorption of the surface of the bone, and in other cases to the removal of the ligaments. It runs the course of the ordinary forms of disease, with dyspnea, indigestion, &c. hectic and death.

In old cases, with great pain in the back, hectic fever and debility the result has been fatal. The state of the symptoms, as also that of the general health, are the most certain signs of the progress or diminution of the disease. Scrofula ; spasms ; contusions ; the cyst of a lumbar abscess ; rickets ; are its most common causes.

On the Treatment of Angular Projection of the Spine.

Rest on the face on a feather bed will take off all pressure from the intervertebral substances of the lumbar vertebræ where it generally occurs, and thus will allay all irritation and inflammation, which in that structure is particularly dangerous. Topical bleeding, blisters, purgatives, a low diet and rest are necessary ; issues, setons, and blisters over the projection are particularly valuable.

Scrofula must be met by appropriate means. In the early stages of this form, the medical and mechanical means formerly advised in excurvation answer completely ; purgatives, and if there be no pain or signs of inflammation the cold bath, chalybeates, and rhubarb will be found to be valuable.

“Pressure, extension of the spine, friction with stimulating liniments, &c. when issues are not established, are advantageously employed, as in the other varieties, as well as the use of the apparatus of bandage, compress, and shield.

“The bandage should be broad, and so applied that some of its turns reach high up on the ribs, and down on the pelvis, from which the patient experiences much relief and comfort. It need hardly be repeated, that pressure and extension should not be employed during the inflammatory or ulcerative stages of this form of disease, or of any species of curvature, when they produce irritation or pain ; nor should they be used when it is supposed that an ankylosis, or deposits of osseous matter are forming.”

At the end of three months the patient, on assuming the erect attitude, will be found to have the spine in the lumbar region inclined a little forward ; lying on the back will then be useful ; using at the same time the appropriate exercises ; however, after all that can be done there will be a projection of the fourth of an inch beyond the level of the spine.

“In some cases, where the spine instrument has been subsequently worn, after exercise is resumed, the projection of the spinous processes gradually recedes in succession ; first the lower one resumes

its natural situation, and subsequently all those above it, until the spine be straight. If this variety of curvature be neglected, so that no surgical means have been employed to arrest its progress, the angular point will be rounded a little, so as to appear like an irregular excuvation of the spine, by the vertebræ below that form the angular projection being bent a little backwards."

It is difficult to fix the period for the employment of the remedies before the erect attitude is to be had recourse to: the horizontal position should be continued even after exercise in the erect posture has been used; fatigue, general uneasiness after exertion, will determine its limits. Lying on the face should be persevered in for many months after the patient seems to be perfectly established.

In taking exercise, the spine instrument should be always worn, in order to prevent stooping and consequently pressure of the vertebræ on each other.

When the back ulcerates from pressure on the projecting vertebræ, this source of irritation must be removed by appropriate dressings.

An instrument valuable from the support it gives to the spine is described by Mr Bampfield, which we insert entire.

"It consists of an upright or spinal bar, that is placed in the direction of the spine; of a straight bar that crosses the scapulæ, and may be called the scapular bar; of axillary supports; and of a pelvic hoop that embraces the pelvis and rests on the spine of the ilium. The whole are of steel. The upright or spinal bar has an open groove along its middle, and eight screw-holes at the top and bottom. A moveable soft pad, to be opposed to the outward curvature or angular projection of the spine, traverses in the groove, and may be fixed opposite to any part of the spine by means of a thumb-screw and nuts on each side of the bar. The screw-holes at the top and bottom are at a small perpendicular distance from each other, and are for the purpose of screwing on the scapular bar, and the back piece of the pelvic hoop below, at a distance most suited to the height of the patient, and can be accommodated to any after-growth. The pelvic hoop consists of three pieces: a back piece and two moveable lateral ones. The back piece screws on the lower part of the spinal bar, and has an open groove, three inches long on each side; the lateral pieces have corresponding grooves of the same length, and are fixed to the back piece by means of thumb-screws and nuts. The lateral pieces traverse, and can, of course, be let out the whole length of their grooves, and can be fixed to any part of their length, by turning the thumb-screws that pass through the grooves of both pieces. The lateral pieces are shaped anteriorly, so as to seize the spine of the ilium, and are partly covered with leather, to which a strap and buckle are attached, for the purpose of buckling the hoop across the pubis. The scapular bar fastens to the spinal bar, by a thumb-screw, and has four or six screw-holes at each end, to which the axillary supports are screwed.

The axillary supports and contrivance for bracing the shoulders back, being fixed by thumb-screws to the scapular bar, form a square of small steel bars.

"On the lower bar is fastened a cushion for the axilla to rest on; on the anterior bar is a cushion to press against the fore part of the shoulder; the anterior bar slides off and on the upper and lower bars, and when taken off, the upper bar lifts up, and allows the shoulder to be put into the square; the anterior bar has straps above and below, with button holes that fasten to knobs on the posterior bar, by which it is made to fit close, and, by its pad, to press the shoulder back. The axillary supports prevent the body from bending laterally. To this machine may be added the curved or forked rod, to support the head, or the mechanical contrivance to keep the head erect, which forms a part of the next instrument to be described.

"The superior advantages of this spine instrument are the following. It is so light that it only weighs a little more than two pounds. The whole is made of tempered and elastic steel, which allows of some degree of action of the muscles of the spine and trunk. The axillæ and shoulders are protected from being cut and chafed, as they usually are by the shoulder straps of other collars, and no pressure is made by any part of it except the pad. By the open sliding grooves and screw-holes, it can be accommodated to all sizes and changes of growth, or any alteration of bulk that may take place during the cure.

"It would be difficult to improve upon this instrument, which is the joint invention of Mr E. Jukes, and Mr Moginie. Axillary supports, however, made of steel, might be constructed, of the form of the shoulders, without pressing against the edges of the arm-pits.

"Mr Moginie has also constructed a back-board, to which is fitted a very ingenious contrivance to keep the head and spine erect. It consists of a common back-board; the scapular bar and axillary supports already described; of a box spring, pulley and cord, and a head piece or band.

"The scapular bar is screwed to the back-board. The head piece is made of a padded elastic spring, covered with leather, which grasps the head in a line with the forehead, around which a strap is passed from one side, that is buckled to the other, and secures it. The box spring is secured to the bottom of the back-board, and is of the same materials, and made on the same principle, as a watch spring.

"From the spring a silk cord is led through two pulleys, to be hooked to the head-piece. The spring can be adjusted to any required power, as by winding it up it can be increased, and *vice versa*.

"When the head is erect, the cord does not draw it back. But as the head is bent forwards, the spring resists more and more, as every inch of the cord is extended, until it arrives at a given extent, beyond which the spring will not yield, and then the tight cord occa-

sions the head to be pulled backwards so forcibly, that the patient is soon weary and raises the head erect. This bending and raising the head and upper part of the spine may be performed as an exercise. The whole of this instrument and the last may be concealed, except the head-piece, and this may be covered with vellum, or a riband, so as to appear like a lady's fillet; and, in a young lady, would be regarded as an ornamental part of her head dress."

Abstract of Foreign Medicine.

PATHOLOGY AND THERAPEUTICS.

Lepra Alphoides.—A little girl, aged ten years, was admitted with this eruption, which had existed for four months. The trunk, extremities, and hairy scalp, are studded with small, whitish, circular scales, unattended by any uneasy sensation, except slight itching when warm in bed. Mr Lawrence ordered the warm bath thrice a week, with five grains of hyd. c. creta every second night, with some rhubarb the succeeding morning. This plan made little impression on the complaint, till salivation happened to take place, when the scales began to decline, and in three weeks she was discharged cured.—*Lond. Med. Chirurg. Rev.*

Incontinence of Urine.—Two cases were lately mentioned at the Royal Academy of Medicine, by M. Canin, where dry cupping the perineum, and a blister to the sacrum cured incontinence of urine in boys, one of 14 years of age, the other of 16 years. The former had been affected for two years with this complaint. He required eighteen applications of the cupping-glasses, in the course of a month. The cure was thus effected. In the second case, it required twenty applications, and a blister in addition. Various other means had been tried, in both cases, without effect.—*Lond. Med. Chirurg. Rev.*

Expulsion of a Tænia.—A man was tormented with tape-worm for ten years, and tried all means of expelling the enemy, but without the least effect. He then despaired of success, and determined to live on friendly terms with this obstinate tenant of his nether region. One day, having eaten most voraciously of a soup made with fat pork, he was seized with a violent indigestion, during which the tænia was discharged entire.—*Lond. Med. Chirurg. Rev.*

Nitrate of Potash in Menorrhagia.—Dr G. B. Carrese has lately published four cases of obstinate menorrhagia, cured by half-drachm doses thrice a day. In all these cases, there had been mental troubles attended with occasional suppressions and irregularities of the menstrual secretion. At length, the discharge was habitually so great as to injure the health, and then it was that Dr C. administered the nitre in the above-mentioned doses, well diluted in barley-water, or other ptisans. In all the patients, the medicine produced a sense of coldness in the stomach, constriction, some nausea and giddiness in the head. To these effects were added, an indescribable sense of tumult or revolution in the abdomen. The menorrhage in all the four cases was soon cured.—*Journ. Complem. Nov. 1826.*

Noxious Exhalations.—The experience of hospital surgeons must often have shewn the danger of bringing abraded surfaces within the range of exhalations from foul ulcers. The following is an instance.

A female was admitted into Bartholomew's, with an inflamed ulcer of the leg. Rest, leeches, and proper diet, soon brought the sore into a healing condition. When the cicatrization was considerably advanced, two other patients, one with

mortification of the leg, and the other with a phagedenic ulcer of the foot, were placed in the adjoining beds. Quickly the first patient's sore took on an unhealthy aspect, and rapidly spread into an extensive sloughing ulcer. She was now removed into an airy ward, and nothing particular was done, in order to ascertain the influence of removal from the sphere of vitiated effluvia. The pain was immediately relieved, and the surrounding inflammation quickly subsided. But, as the surface did not seem inclined to clear, cinnabar fumigation was employed for a week, when the sloughy character disappeared, and the ulcer healed rapidly.

We hope the chloruret of lime may prove serviceable upon such occasions, by correcting the effluvia from foul sores, and preventing their action on others exposed to their influence.—*Lond. Med. Chirurg. Rev.*

Case of Erysipelas.—Mr Higginbottom has cured erysipelas of the head and face by the application of lunar caustic to the inflamed surface. It subdued directly the inflammation, the delirium, and general fever, in about half the time of its ordinary course.

Case of Consumption.—Dr Crampton relates a case of consumption following scarlatina in which the patient vomited foul matter shortly after eating. She had not a stool sometimes for eight months. A case of this kind took place in France, detailed by Dr Cox in the Medical Museum. In the last case, there were no evacuations by the lower bowels whatever.

On the Prussiate of Iron against Epilepsy. By M. De Kirchhoff. (*Journ. Compl.*)—M. De Kirchhoff thinks, that amongst the great number of remedies which have been administered against epilepsy, none deserve so much confidence as the prussiate of iron. Whenever the disease did not depend on any organic lesion, he cured epilepsy, although of several years duration. He gives an adult at first half a grain, and continues increasing it gradually to about six grains, and sometimes even more. When the patient is of a sanguineous constitution, he precedes the use of this remedy by both occasional local and general bleeding.—*Lancet*, No. 207.

Successful Inoculation of the Measles.—The inoculation of the measles, which has been already practised with success by Horne and Horst, was repeated by Professor Speranza, during an epidemic which reigned at Mantua in 1822. He inoculated six children as well as himself, and the measles in each case appeared in a mild and regular form. The following plan was adopted: a slight incision was made in the best looking measles, and in the blood which flowed from the scratch, the point of a lancet was dipped, which was then inserted into the upper arm of the person to be inoculated.—*Bibliotheca Italiana*.

Caution against Vaccinating Hydrocephalic and Epileptic Children.—At the commencement of this practice in Vienna, Dr Erdmann vaccinated a child labouring under chronic hydrocephalus. The pustules made their appearance at the proper time, and the child went on well till the 9th day, when the usual febrile symptoms made their appearance, and on the 10th it died. A somewhat similar case occurred in the practice of a physician at Dresden: a child subjected to epileptic fits was vaccinated, and up to the 10th day did very well, when convulsions came on, and the child died.—*Lancet*, No. 205.

Remedy for Old Sores.—Dr Gunthar, of Cologne, relates in a late Number of Gräfe and Walther's Journal, that he has found the following decoction of great service in obstinate sores, particularly in those situated on the feet:—R. Coct. ulm. campert interior. rad. \mathfrak{z} j., which is to be boiled in about twelve ounces of water till about eight remain. To this a scruple, or half a drachm of the plumbi acet. is to be added.

The efficacy of the liquor calcis oxymuriaticæ in sores of the mouth or gums is very striking. It cleanses the sores, removes the bad smell, and promotes the healing very rapidly, if at the same time medicines be given internally.—*Lancet*, No. 205.

Lithotomy and Lithotritie.—At a Meeting of the Institute, on the 14th of May, a paper was read by M. Clever de Maldigny, a military surgeon, on lithotomy, in which he stated he had been the subject of stone no less than *seven* times, and had *six* times undergone the operation of lithotomy : viz. 1st when six years old, 2d when 8, 3d when 18, 4th when 20, 5th when 22, and 6th when 24.

The sixth time the stone was situated at the neck of the bladder. M. Clever performed the operation himself, and extracted the stone with his fingers. To perform this operation, he placed a glass between his legs, which enabled him to direct the bistoury in the course of the cicatrices resulting from the previous incisions.

On his having the seventh stone, he did not feel inclined to lithotomize himself a second time, but preferred to have recourse to the operation of "lithotritie." This was successfully performed by Dr Civiale at four sittings, with intervals of a few days. M. Clever stated, that he suffered very little, and had no bad symptoms. A cure so prompt and easy enabled him to wait with confidence another attack of his formidable complaint. His memoir was listened to with very great interest.—*Lancet*, No. 205.

SURGERY.

Nævi Materni.—Among the novelties of medical practice, we may mention a curious remedy for nævi materni, first employed, we understand, by Mr Hodgson, of Birmingham, and now in course of trial by some surgeons of London. It is vaccination of the nævus, in several points of its surface, by the specific inflammation of which, it is said, the nævus is arrested in its progress, or caused to slough. We recommend our surgical brethren to try this easy and simple remedy*.

We apprehend, however, that no plan will be equal to that of the ligature. If the tumour be too large for a single ligature to surround, a needle should be passed under the centre of the nævus with a double ligature, and then the two halves surrounded in the usual way. We believe that Mr Lawrence ties the ligature very tight, and cuts it away at the end of 48 hours, to lessen irritation. A great number of nævi, of various sizes, have been removed in this manner by metropolitan surgeons, of late, without a single bad consequence.

An infant, four months old, was admitted, with subcutaneous nævus on the middle of the dorsal spine, an inch in diameter. At birth, it was about the size of a sixpence. When received, the nævus resembled half a small orange, in size and form. It had a spongy feel, and was reducible by pressure to nearly half its natural size. Mr Lawrence passed a needle and double ligature through the base of the tumour, and then separating the threads, drew them round, so as to encompass the whole base. The child cried incessantly during the remainder of the day, and was convulsed in the night. Next day it was fretful, but took the breast towards evening. It was convulsed the second night. 3d day. Some bleeding occurred, but was suppressed by cold applications. 4th day. Child very ill. Mr L. sliced off two-thirds of the tumour, and then applied lint, moistened with cold water. 5th day. The infant much better, and takes the breast. 6th day. The ligatures removed, a poultice applied; and, on the 7th day, the tumour sloughed. The ulcer granulated kindly, and the child left the hospital cured.

* It has recently succeeded under Mr Earle, at Bartholomew's.

The profession was favoured some years ago with a paper from Mr Wardrop published in the Medico-Chirurgical Transactions, on the subject of a natural cure which *nævi materni* sometimes undergo, by a process of spontaneous ulceration. The distinguished surgeon abovementioned imitated this natural process, by applying a strong solution of oxy muriate of mercury to a *nævus* on a child's back. In this instance, the skin ulcerated rapidly, destroying the substance of the tumour. Two cases are reported from Panton Square, in No. 181 of the *Lancet*, where a similar practice was adopted.

Case 1. A child, aged 13 months, had a small *nævus*, the size of a sixpence, on the middle of the frontal region, the central portion of which was of a bright red colour, and to this centre several tortuous vessels ran from the circumference. A piece of adhesive plaster, with a hole in its middle, was applied over the *nævus*. Through this aperture the *kali purum* was admitted to the surface. An eschar formed and separated, and subsequent ulceration destroyed the whole of the *nævus*. The part was cicatrized in three weeks.

Case 2. This was nearly similar, except that the *nævus* was situated on the cheek. The same treatment was adopted, and the same result ensued.

We lately saw a *nævus* situated on a child's head, and projecting a couple of lines in height, being about the size of a shilling. By some accident the *nævus* was irritated—then inflamed, ulcerated, and became destroyed. The child appeared to suffer a good deal during this ulcerative process.—*Lond. Med. Chirurg. Rev.*

Spina Bifida cured.—Mr Probart, of Hawarden, has communicated a case of *spina bifida* cured by repeated punctures and discharge of fluid from the tumour. There was a loss of bony substance in the situation of the second lumbar vertebra, and the lower extremities were completely paralytic. When the child was about three months old, the operations were commenced. After a few puncturings, there came on considerable inflammation in the integuments of the tumour, and the child had some smart convulsive paroxysms. But, by emptying the bowels, and applying leeches to the parts, the inflammation was reduced, and the convulsions ceased. The integuments covering the *spina bifida* became thickened, and then a plaster and compress were applied with pressure. By these means the tumour was reduced, and ultimately disappeared, leaving a depression in its place.—*Lancet*, No. 186.

A case of inflammation of the tongue cured by incisions is related by Dr Cusack. The tongue filled up the back part of the fauces; breathing was almost suspended: three or four deep incisions into the substance of the tongue discharged some matter, and in fifteen minutes he was relieved. The pus was so deep seated, that the patient would have died, if it had not been for the operation.

Four operations have been performed lately in Dublin for the extirpation of part of the jaw. This attempt it appears, though the Hospitals of France do not approve it, still has advocates in other parts of Europe.

It appears from a late observation of Lisfranc, that cancer of the tongue may be confined to its surface, and that it is proper to make slight incisions to ascertain its depth before the operation; that the enlarged lymphatic glands near cancerous tumours may be removed by leeches, and that the tongue is best extirpated by ligature, incisions being made round the organ, so as to include all the diseased parts.

It appears that the ingenious soldiers of England have discovered a mode of making artificial ruptures; *i. e.* by puncturing the scrotum, and then blowing air into it with a piece of tobacco pipe; allaying the inflammation with poultices, &c.

Case of Laceration of the Perineum, by Mr Williams, of York.—The parts were immediately united by three sutures, and the woman, keeping her legs together, did well. A gentleman practising at Shoreditch tells us, that such cases are extremely common in that neighbourhood, where the poor are attended by ignorant midwives. He has rarely found it necessary to employ sutures; keeping the parts in apposition, by tying a handkerchief round the knees, being generally sufficient.

PHYSIOLOGY.

Dr Lee of London has lately concluded from observations made upon the stomach and intestines of the fœtus that they perform a sort of digestion. The contents of the stomach resembled chyme which decreased in quantity towards the lower intestines.

Cephalo-Spinal Fluid (Journal Physiologie, Janvier 1827).—In our last number, (No. xii.) page 592-3, we gave a brief account of M. Magendie's experiments to determine the quantity, nature, use, &c. of the cephalo-spinal fluid. That distinguished physiologist has recently published several memoirs on this interesting investigation, which, indeed, is yet in its infancy. We shall only be able to notice in this place the substance of his last memoir, read at the Academy of Sciences on the 12th of February, of the present year.

In the preceding memoirs, our author shewed that a fluid, formed chiefly in the spinal canal, had a free communication with the cerebral ventricles, by means of an aperture situated near the calamus scriptorius, and that, *vice versa*, the fluid of the ventricles had free exit into the spinal canal.

Finally, M. Magendie averred that the fluid formed between the pia mater and arachnoid, over the hemispheres of the brain, had a communication with the ventricles, and, consequently, with the spinal canal. In the portion of memoir now under review, our author comes to the facts on which the foregoing assertions are founded. To these facts we wish to draw the attention of our readers.

A female was brought into the Hospital Necker last year, who had been seized the preceding evening with apoplexy and hemiplegia. She died the same night. This dissection was made by M. Magendie himself, in the presence of M. Delorme and others. The fluid in the cranium and in the spinal canal was tinged with blood, but without any clots. M. Magendie then prognosticated that there was sanguineous extravasation in the ventricles, and accordingly a fibrinous clot was found in the third ventricle, bathed in a reddish serum. This clot resulted from a slight rupture in the thalamus nervi optici of the right side.

We see, then, that the source of the coloration of the cephalo-spinal fluid was placed in the third ventricle. If there were no flux and reflux in this fluid, it is scarcely possible to conceive how this decoloration could have extended to the very extremity of the spinal canal, in the very short period that elapsed between the attack of apoplexy and the death of the patient. The alternate flux and reflux of the cephalo-spinal fluid, corresponding with the action of respiration, would readily account for the transmission of tinge along the canal.

More recently, M. Magendie observed a fact very analogous to the foregoing. A woman died in a very rapid manner of apoplexy, in the Salpetriere. In this case, the clot was not entirely confined to the ventricle, but extended to the aqueduct of Sylvius, which was considerably dilated. No part of the clot, however, had entered the spinal canal, yet the cephalo-spinal fluid was deeply tinged down to the very sacrum. The following case has afforded our author direct proof that a morbid and accidental fluid formed in the spinal canal may penetrate into the ventricles by the route already described.

A young and robust gardener, who had been exposed to the vicissitudes of the atmosphere, was brought into the Hotel Dieu, complaining of great pain between the shoulders and along the spine. He had strong fever, but no affection of the

head. The disease was considered as acute rheumatism of the muscles of the back, occasioned by exposure to wet and cold, and some relief was obtained by bleeding and the usual means; but the disease persisted, and took on a more serious character. Motion of the arms and lower extremities became almost impracticable—the urine could not be voided, except by the catheter—and, on the second night, the patient became delirious for some hours, in the midst of which he suddenly expired, while attempting to get out of bed. Such an unexpected event excited the curiosity of the medical officers of the hospital to investigate the cause of death.

On dissection, the cephalo-spinal fluid was observed to be wanting and to have been replaced, throughout the whole extent of the spine, by a yellowish and thick pus, of the consistence of jelly. This substance completely filled the sub-arachnoid space, forming a kind of cylindrical sheath for the spinal marrow down to the sacrum. The arachnoid membrane thus distended was sound; but the subjacent pia mater was injected with red. The fourth, the third, and the two lateral ventricles of the brain were found distended with the same substance, somewhat more fluid than that in the spinal canal. On the most attentive examination of the internal surfaces of these ventricles, they were found quite healthy, and without the least trace of softening, or other mark of previous inflammation—affording a strong proof that the morbid fluid had been but a short time in these cavities, and that it had made its way from the spine, causing the sudden and fatal cerebral symptoms. This may be considered, then, as a new species of apoplexy.

The next proposition which is to be supported by facts is the communication which is said to exist between the general surface of the brain and the spinal canal. Some experiments on animals induced M. Magendie to think that there was no communication between the cerebral surface and the ventricles: but the following case altered his opinions on that point.

A woman, 75 years of age, was suddenly seized with apoplexy, and also paralysis of the right side. In the course of the day the paralysis became general, and the patient died in 30 hours from the invasion of the disease. M. Magendie prognosticated cerebral hemorrhage in one of the hemispheres, with extravasation of blood into the ventricles. He commenced the dissection by opening the spine, and he found the cephalo-rachidien liquor highly tinged with blood—from which he regarded it as certain that there was a communication between the seat of hemorrhage and some of the ventricles. The left hemisphere was first examined, and he there found a large extravasation of blood, which he had no doubt extended to the corresponding ventricle. In this he was deceived. The parietes of the ventricle were completely intact, and there was in it only a small quantity of tinged fluid, similar to that which was seen in the spine. There was, therefore, no direct communication between the focus of the hemorrhage and the ventricle. In the left ventricle there was a considerable quantity of the same kind of tinged fluid. Here our author was greatly embarrassed. On farther examination, it was found that a portion of the blood extravasated had burst into one of the anfractuosities of the hemisphere, and had there occupied the place of the serous fluid naturally existing in such situation. The extravasation was then easily traced to the inferior surface of the brain—to the superior and inferior face of the cerebellum—and, in fact, onwards to the entrance of the fourth ventricle. He was then able to comprehend how the tinge of blood was given to the fluid in the ventricles, and, ultimately, to the whole of the cephalo-rachidien liquor.

The foregoing facts and arguments will probably be one day of considerable importance in the practice of medicine. It is, M. Magendie thinks, almost certain that the ventricular fluid has its source in a secretion from the pia mater covering the spinal marrow. This is rendered the more probable, when we consider that there is no vascular apparatus in the ventricles likely to produce such an abundant secretion; whereas, the pia mater, cranial and spinal, has an extremely active circulation, and, consequently, is in a condition the most favourable for the production of a copious exhalation. Besides, on opening the ventricles of a living animal, we do not observe the formation of any serous fluid; whereas, on laying bare the pia mater, of the head or spine, the formation of the fluid is seen very distinctly.

"If, then, the ventricular fluid comes from the spinal canal, wholly or in part, in those diseases where fluid is found distending the ventricles, it is evident that our remedial measures should be directed towards the spine, as well as towards the head. This proposition I shall follow up by clinical experience and observation.

In the mean time, M. Magendie relates an interesting fact, which we shall here introduce. A horse was brought into the court-yard of the Ecole de Medicine, in order to be slaughtered for experiments, the animal being affected with a peculiar disease, termed in France *immobility*, which consists principally in the loss of all power of moving backwards—and also considerable want of command over the movements forward. The horse was otherwise young, handsome, and strong. M. Magendie begged M. Breschet to turn the animal over to him, with the view of making some attempt to cure the disease. To this M. Breschet consented. Our author justly conceived that the strange affection in question must be connected with some lesion of the spinal marrow; and under this idea he applied four immense and powerful moxas along the spine of the animal. These caustics produced dreadful pain, and the animal became so frantic that it was very difficult to restrain him. The combustion, however, was only rendered the more complete by these exertions of the horse, and four deep and large eschars were the consequence. Two days after the application of the moxas the horse began to evince some power of moving backwards, and, in the course of eight days, he backed freely. After this, M. Magendie took him to his own stables, and put him into harness. The horse is quite well, and, if he has any gratitude, he will draw his master most cheerfully to the end of the chapter.

It appears probable to our author that the immobility of the horse, in this case, was caused by the existence of an undue quantity of cephalo-rachidien fluid making pressure on certain parts of the brain during distention of the ventricles. He had laid before the Academy, long ago, some experiments, shewing that, when certain portions (*corpora striata*) of the brain were excised, the animal was incapable of making any movement backwards, but was, on the contrary, carried forwards by a kind of irresistible impulse. He thinks the horse, in this case, was in a situation somewhat analogous, from the pressure of fluid in the ventricles, and that the moxas caused absorption of the fluid, and removed the disease. Be this as it may, the fact recorded is not the less worthy of remembrance. M. Magendie avers that he has seen several cases where there were unequivocal symptoms of serous effusion in the ventricles, occurring in the cerebral fevers of children, and where these symptoms quickly disappeared, after large blisters to the spine and between the shoulders. One other thing he has particularly observed, since his attention was excited to this subject, which is this; that, in all those patients who died with symptoms of acute or chronic effusion in the brain, there was a remarkable dilatation of the aqueduct of Sylvius, and, consequently, a free communication between the spinal canal and the cerebral ventricles.

From the foregoing facts, M. Magendie considers himself authorized to conclude—

1. That the cerebro-spinal fluid is one of the natural humours of the body—and, from its situation and use, one of the most important of these humours.
2. That it is indispensable to the free exercise of the cerebral and spinal functions.
3. That it protects the parts which it surrounds and touches from external violence.
4. That it influences the functions of the brain and spinal marrow by the pressure which it exercises on these parts—by its temperature—and by its chemical composition.
5. That at the bottom of the fourth ventricle, opposite the *calamus scriptorius*, there exists an opening, affording free communication between the cerebral cavities and the spine.
6. That the ventricles are always filled with the fluid under consideration—that these cavities are capable of containing two ounces, without any inconvenience to the intellectual faculties—but that, when the quantity materially exceeds

this, there is derangement, and generally paralysis of the muscular movements, with more or less considerable diminution of the intelligence.

7. That it is extremely probable that there is a flux and reflux of the fluid in question from the spine to the ventricles, and from the ventricles to the spine, corresponding with the movements of the brain that take place in the action of respiration.

8. That a fluid accidentally produced in the spinal canal passes readily into the cavities of the brain, and fills those cavities.

9. That a fluid produced in one ventricle passes readily into the others, and from thence passes quickly into the spinal canal.

10. That an accidental fluid, having its source on the surface of the hemispheres, may pass, in a short space of time, into the spinal canal, and also into the ventricles of the brain.

11. That it is very probable that the fluid naturally existing in the ventricles, and also that found in certain diseases, have their principal source in a secretion of the vascular membrane covering the spinal marrow.

We have now only to add that, on chemical analysis, the cephalo-spinal fluid was found to consist of 98 parts in the hundred of water, the other two parts being composed of osmazome, albumen, chloride of soda, subcarbonate of soda, and a very minute trace of phosphate and carbonate of lime.

The most interesting part of this investigation will be that which relates to the passage of a morbid, or morbidly increased quantity of fluid from the spinal canal to the ventricles of the brain, in certain diseases; for, if this be ascertained, it will greatly influence our modes of treatment, and probably throw some light on points of pathology now involved in much obscurity.—*Med. Chirurg. Rev.*

